Intention to screen for sexually transmitted infections: A terror management health model perspective

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Intention to Screen for Sexually Transmitted Infections: A Terror Management Health Model Perspective

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Abstract

The present studies assessed intention and willingness to screen for sexually transmitted infections from a Terror Management Health Model perspective. TMHM proposes that when facing a health decision, people tend to cling to what increases their self-esteem rather than behave in a way that would actually minimize the health threat. The first study hypothesized that exposure to a brochure rife with reminders of “creatureliness” would increase death thought accessibility, while a control brochure would not. No significant difference was found. The second study hypothesized that those with low body-esteem would cling more to what today's culture deems an acceptable body image by showing lower intention to screen for STIs than those with high levels of body-esteem. There were no significant relationships between condition and intention to screen, or body-esteem and intention to screen. This research addresses barriers preventing people from getting screened and discusses screening campaigns within a TMHM framework.
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Introduction

There is an old adage that states, “Knowledge is half the battle,” but what is the other half? This question is particularly applicable to sexual behavior. According to the most recent CDC estimates, there are 110 million people living with sexually transmitted infections (STIs) in the United States today. Despite the fact that the CDC, and other organizations (Planned Parenthood and World Health Organization to name two) have implemented campaigns to raise awareness, the numbers of infected individuals continues to rise. The cost of treating STIs is estimated to be $16 billion every year, and a large percentage of infected individuals are ignorant to their positive STI status either because they are currently asymptomatic or unaware of the range of signs and symptoms (Centers for Disease Control and Prevention, 2010). Because of these factors, it is important to address barriers to screening such as the stigma surrounding STIs (Foster & Byers, 2008), lack of education on the high prevalence of STIs (Mccave, Azulay-Chertok, Ramseyer, Winter, & Haile, 2013), and lack of one’s own perceived risk (Leval et al., 2011). In addition, it is important to identify campaign strategies that have come up short, or been all together unsuccessful, such as the controversial “fear campaigns” (Halkjelsvik, Lund, Kraft, & Rise, 2013; Sevgi, Douglas, & Lipshutz, 2007). A large number of campaigns focused on promoting STI screenings today are promoting the statistics and the blunt facts surrounding STIs. This may pose a potential problem when looked at through the lens of Terror Management Theory.

Terror Management Theory (TMT, 1986) has shown that when individuals are reminded of their own death, there is a tendency to cling to their worldviews tightly (e.g., defending one’s country, religion, racial views, or body image importance). The most widely used method for testing TMT has been the use of the mortality salience (MS) hypothesis. There are two main
components to this hypothesis, the first of which is that if people defend against death anxiety by investing in a cultural worldview (e.g., only promiscuous people get STIs), then providing a situation in which people are reminded of their own death (mortality salience) should increase investment in or identification with that worldview. The second component of TMT is that higher levels of self-esteem help protect individuals from thoughts of death and the subsequent anxiety surrounding the thought of an individual’s own death. That is, TMT offers an explanation as to why people need self-esteem – to protect themselves from the essential human fear of death. Ostensibly, self-esteem acts as a gauge for how an individual feels they are living up to their worldview. People with both induced and dispositional high self-esteem repeatedly show less worldview defense and lower levels of death thoughts after a mortality salience prime than people with induced or dispositional low self-esteem (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004; Greenberg, Pyszczynski, & Solomon, 1986; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989).

In addition to the MS hypothesis, TMT also proposed the death thought accessibility (DTA) Hypothesis. If investing in a worldview lessens death anxiety, than threatening the worldview should increase death anxiety independent of any MS manipulation. Additionally, threatening an individual’s cultural values tends to increase death related thoughts (Schimel, Hayes, Williams, & Jahrig, 2007). Research has shown that imagining separation from a romantic partner (Mikulincer, Florian, Birnbaum, & Malishkevich, 2002), or inducing thoughts of physical sex (Goldenberg, Pyszczynski, McCoy, Greenberg, & Solomon, 1999), as well as giving reminders of people’s likeness to animals (Cox, Goldenberg, Pyszczynski, & Weise, 2007), all have shown to increase accessibility to death related thoughts. That is to say, when the
foundation holding one’s conscious or unconscious anxieties surrounding death at bay is threatened, thoughts of death become more readily accessible.

An offshoot of TMT is the Terror Management Health Model (TMHM, 2008) which utilizes both the mortality salience and the death thought accessibility hypotheses. This model states that when faced with a health issue, individuals are more likely to make a health decision based on what bolsters their worldview as well as what protects their self-esteem rather than on what is best for their health. The physical body itself can be a source of self-esteem, often governed by culture. In keeping with TMHM, this study explored the possibility that those with low body-esteem may show lower intention to get an STI screening than those with high body-esteem when mortality is salient. Knowing how body-esteem effects intention to obtain an STI screening may be consequential to slowing the rates of new STI infections. Engaging in risky sexual behavior has been studied extensively from a TMT perspective, but currently no research has addressed any further implications of engaging in such behavior, such as the contraction of an STI and the likelihood that one would be willing to get screened. With the rising number of STIs, it is important for researchers to address possible intervention techniques that will target a range of people with different worldviews and body-esteem levels. It is also important to encourage STI screening as a more socially acceptable and less stigmatized health option.

The current studies pulled from TMHM and addressed hurdles that may be preventing people from getting screened for STIs and in turn, knowing their STI status. Specifically, the first study utilized the death thought accessibility hypothesis to explore whether or not STI campaigns that utilize “fear based” strategies were effective at motivating participants to get screened. The second study primarily explored the effect of mortality salience on intention to screen for
sexually transmitted infections, as well as the moderating effects of body-esteem on intention to screen.

**Terror Management Theory**

Terror Management Theory (TMT, 1986) was initially proposed to provide an explanation for the strong need to find meaning and purpose throughout humanity, coupled with the need to feel good about the self while seeking and fulfilling that purpose. The theory was based upon the writings of cultural anthropologist, Ernest Becker. TMT proposes that a unique aspect of being human is a strong instinct for self-preservation combined with a paradoxical awareness that this instinct is destined to failure. The knowledge of each person’s own inevitable death creates a potential for a great amount of anxiety. However, most individuals are not brimming with anxiety surrounding their death, which suggests the capacity to suppress thoughts about death and the subsequent anxiety surrounding it.

TMT suggests that suppression of death thoughts is achieved by investing in cultural worldviews. In general, a cultural worldview is defined as:

A set of beliefs about the nature of reality shared by groups of individuals that provides meaning, order, permanence, stability, and the promise of literal and/or symbolic immortality to those who live up to the standards of value set by the worldview (Harmon-Jones, Simon, Greenberg, Pyszczynski, Solomon, & McGregor, 1997, p. 24).

Literal immortality can be achieved through investment in a worldview that provides an afterlife (such as the Christian idea of heaven) provided the requirements of the worldview are fulfilled. Symbolic immortality can be achieved through the leaving of a legacy, be it through having children or having one’s name “go down in history.” Burke, Martens, and Faucher (2010) provide an explanation of the anxiety-buffering properties of investing in a cultural worldview:
Whether literal or symbolic, this cultural anxiety buffer consists of two components: (a) belief in the validity of a cultural worldview and the standards and values associated with that worldview and (b) belief that one is meeting or exceeding those standards and values, that is, self-esteem (p. 155).

A number of studies have provided support for the first piece of the quote above, showing that when reminded of their inevitable death, people tend to show more positive evaluations of others who share the same cultural worldview (Arndt, Greenberg, Pyszczynski, & Solomon, 1997; Greenberg et al., 1990). One experiment found that when judges were first primed to think of their mortality, they administered harsher sentences to prostitutes than when they were primed to think of a control topic (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). In other words, research shows that people tend to cling more tightly to their worldviews (e.g., increased desire to uphold the law) when they are reminded of the fact that they will eventually die.

The second piece that posits that self-esteem is related to how well a person feels they are living up to the standards and values of their worldview has also been extensively studied. How well individuals feel that they are subjectively living up to the standards of the worldview determines how they feel about themselves overall and in turn, aids in buffering death anxiety (Harmon-Jones et al., 1997). “The concept of self-esteem generally refers to a person’s evaluation of, or attitude toward, him- or herself” (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004, p. 435). From a TMT perspective, self-esteem, or the need to feel good about the self, is hypothesized to be a human necessity because it provides a greatly needed buffer against what could potentially be crippling death anxiety.

Self-esteem is a protective shield designed to control the potential for terror that results from awareness of the horrifying possibility that we humans are merely transient animals.
groping to survive in a meaningless universe, destined only to die and decay


Previous research has provided support for the anxiety-buffering function of self-esteem such that those with high levels of self-esteem (both induced and dispositional) showed less death thought accessibility than those with lower self-esteem (Hayes, Schimel, Faucher, & Williams, 2008). In other words, it was found that participants with high self-esteem have an easier time blocking out the thoughts of death than those with lower self-esteem. In addition, when mortality is salient, those with low self-esteem are more likely to show increased worldview defense than those with high self-esteem (Harmon-Jones et al., 1997).

In a typical MS experiment, participants are randomly assigned to one of two conditions. In one condition, participants write a short paragraph about the feelings and thoughts that their own death rouses in them. In the control condition they write about feelings and thoughts surrounding a negative event not involving death (e.g., going to the dentist). When writing about the thoughts surrounding their death, mortality becomes salient – accessible to the conscious mind. Research has repeatedly found that MS effects of worldview defense occur strongly only after a delay measure (Burke, Martens, & Faucher, 2010), suggesting that it is only when death thoughts are outside of conscious awareness that they are effective at calming death anxiety (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). “The notion that threatening thoughts activate defense from outside of conscious awareness would be in keeping with the psychodynamic intellectual roots of terror management theory” (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994, p. 630). For that reason, a delay measure follows the MS manipulation, keeping with findings that the tendency to cling to one’s worldview to alleviate death anxiety is an unconscious process (Arndt, Greenberg, & Cook, 2002).
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The typical delay is a word search task or analysis of a short paragraph; anything that will distract the participant for a few minutes from the death thought prime can be used. “Removal of this delay has been shown to eliminate the effects of MS on the dependent measure” (Burke, Martens, & Faucher, 2010, p. 156). Following the MS manipulation, “death accessibility” is assessed using a word completion task in which 25 incomplete words are presented to the participant. A handful of the words can be completed as either neutral or death related words, such as “COFF _ _,” which can either be “coffee” or “coffin.” The higher the number of words that are completed as death related, the higher the level of death thought accessibility.

The mortality salience hypothesis has been used in over 200 studies across the globe. A meta-analysis of these studies found that “the MS hypothesis of TMT – that death affects us without our conscious realization – is robust and produces moderate to large effects across a wide variety of MS manipulations as well as attitudinal, behavioral, and cognitive dependent variables” (Burke, Martens, & Faucher, 2010, p. 187). This hypothesis is applicable to a wide range of topics, including what is pertinent to this study: the consequences of risky sexual behavior.

In addition to eliciting worldview defense with reminders of mortality, TMT also proposed the death though accessibility hypothesis (DTA), “if a psychological structure (e.g., cultural worldview) buffers people from thoughts about death, then weakening this psychological structure should momentarily bring thoughts about death closer to awareness” (Schimel, Hayes, Williams, & Jahrig, 2007, p. 789). In a study of Canadian students, half the participants were exposed to an anti-Canadian website and half to an anti-Australian website. Immediately following exposure, participants were asked to complete the aforementioned word search task to assess DTA. Significant results were found such that Canadians who were exposed to the anti-
Canadian website showed higher levels of DTA (Schimel, Hayes, Williams, & Jahrig, 2007). In a similar study, researchers found that when participants were asked to consider being separated from a loved one as opposed to an acquaintance, DTA was significantly heightened (Mikulincer, Florian, Birnbaum, & Malishkevich, 2002). That is to say, maintaining faith in the validity and permanence of one’s worldview is necessary to the suppression of death thoughts and the subsequent death anxiety. This has been found to be the case in worldview maintenance, and as will become clear, in decisions affecting personal health and well-being.

**Terror Management Health Model**

Recently derived from TMT was the Terror Management Health Model (TMHM, 2008). TMHM proposes, “Nonconscious death thought activation should increase people’s willingness to engage in behaviors that confer self-esteem, even if the behaviors involve obvious risks to physical health” (Goldenberg & Arndt, 2008, p. 1043). That is, when reminded of one’s own mortality, it matters little what will benefit him or her in the long run; what matters is that one is protected from anxiety surrounding his or her own death in that moment.

As previously discussed, TMT reveals that unconscious thoughts of death have the ability to create significant amounts of death anxiety. With this in mind, despite the logical and presumed fact that humans are motivated to survive, there are many recorded instances where cross-culturally this assumption is challenged. Cigarette smoking, failure to use protection in risky sexual situations, and drinking and driving all provide examples that there seems to occasionally be a drive that trumps the survival instinct and lends one to greater risk of disease or death. It follows then that when faced with a decision about health, be it protection from cancer by not tanning or smoking, or conducting self-breast exams, people are more motivated to buffer
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death anxiety rather than protect themselves against the real threat of death by doing whatever it
takes to survive (e.g., quitting smoking).

TMHM is broken down into three propositions. The first proposition says that when
conscious thoughts of death are present (i.e. when threat of death is imminent, or the MS
manipulation is administered without a delay) people tend to engage in behaviors that suppress
the thoughts of death, or, minimize the health threat (e.g., I’m not in that much danger). The aim
is first to relieve oneself of the conscious awareness of mortality, which is consistent with TMT
research showing worldview defense only after a delay. The second proposition states, “In the
context of nonconscious death thought activation, health decisions will be informed by the
relevance of the health behavior to maintaining meaning and value of the self” (Goldenberg &
Arndt, 2008, p. 1038). In other words, when thoughts of death are unconsciously activated (e.g.,
delay following MS manipulation, or when there is suspicion of a health problem), health
decisions are based on what will bolster self-esteem and the feeling of living up to one’s
worldview. For example, in certain religions where doctors and medicines are frowned upon, one
might have an unconscious recognition of danger but instead of getting the problem treated,
might instead unconsciously cling even more tightly to religion.

The prior propositions feed directly into the third. Goldenberg and Arndt (2008) write the
following:

In the context of nonconscious death thought activation, the extent to which
health behaviors involve the physical body should inform the health outcome.
Moreover, the degree to which a physical behavior is construed as creaturely
and the degree to which individuals are sensitive to such concerns should
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moderate discomfort with, and avoidance of, body-oriented behavior. (p. 1039)

That is to say, part of suppressing death anxiety lies in the ability to see oneself as symbolically immortal. The need to ward off anxiety surrounding mortality causes a desire to think of oneself as being able to achieve immortality, literal or symbolic. Thus, when reminded of “creatureliness,” of the recognition of the similarities between people and other animals; that we are all composed of matter who will eventually die and decay, the body becomes exposed to the “reality of mortality.” With regard to health-oriented behavior, “the threats associated with the creatureliness of the body may pose a barrier to body-oriented health behaviors under conditions where death thoughts are activated but not conscious” (Goldenberg & Arndt, 2008, p. 1046). In other words, the body itself can be a reminder of mortality, and combining MS manipulations with reminders of the body can produce large amounts of death anxiety, and in turn, greater worldview defense.

Indeed, mortality salience has been shown to have a significant impact on intentions to engage in body-oriented behaviors ranging from the increased intention to engage in risky sexual behavior (Lam, Morrison, & Smeesters, 2009), increased intention to exercise (Arndt, Schimel, & Goldenberg, 2003), and increased intention to go tanning (Routledge, Arndt, & Goldenberg, 2004). If the body is indeed a reminder of mortality, these behaviors are consistent with TMHM in that they may enrich self-esteem, while not necessarily being healthy.

Goldenberg, Arndt, Hart, and Routledge (2008) found that when women engaged in a breast self-exam after a creatureliness prime, they had larger amounts of death thought accessibility than women who were given a uniqueness prime (unique from animals). This provides evidence that the reminder of one’s creatureliness alone triggers heightened death
thought accessibility which manifests itself in protecting one’s worldview and self-esteem rather than addressing the health threat. Being shown graphic pictures of STIs, or even implying to an individual that they themselves might have been infected, may potentially be a reminder of creatureliness. Consequently, creatureliness may present itself as a barrier to people deciding to get screened. If people are presented with frightening statistics about the odds that they have an STI, then in accordance with propositions two and three, they should tend to react in a way that protects their self-esteem and bolsters their worldview, whether that means getting screened or not. More importantly, even suggesting an STI screening may trigger reminders of creatureliness, which in turn would activate worldview defense. Implications of this research include suggesting campaigns that remove the focus of the STI screening from the physical body onto another object or goal, possibly even onto another person through the use of a “be a hero – get screened” campaign. Such a campaign might move the focus off of the individual’s own body and onto another’s, making getting screened a more symbolic and meaningful charge.

**TMHM and Sex**

Sexual intercourse has been extensively addressed using the MS hypothesis (Burke, Martens, & Faucher, 2010). Sex raises some interesting questions because the act or thought of engaging in physical sex can arouse anxiety as it can be a reminder of one’s creatureliness and in turn, one’s mortality (Goldenberg, Pyszczynski, McCoy, Greenberg, & Solomon, 1999). As intelligent beings, we have the ability to view sex as not just an animalistic fulfillment of the instinctual drive to procreate and feel pleasure, but to change it into a symbol of “that which will conquer death” - love. This can be accomplished by focusing on the romantic and culturally acceptable parts of sex, such as the feeling of being in love and the commitment to another person. Indeed, research has shown that reminders of death (MS) increased motivation to form
and maintain close romantic relationships in both men and women (Mikulincer, Florian, & Hirschberger, 2003). Goldenberg, Cox, Pyszczynski, Greenberg, and Solomon conducted an experiment in 2002 where they administered a creatureliness prime to all participants, followed by either reminders of physical sex (e.g., feeling my genitals respond sexually) or reminders of romantic sex (e.g., the feeling of closeness to my partner). Participants who thought about physical sex called to mind a greater number of death words than those in the romantic sex condition. In 2011, a supplemental study was conducted wherein a creatureliness prime was found to lead to a decrease in interest towards the physical aspects of sex and an increase in interest towards the romantic aspects of sex (e.g., expressing love for my partner; Birnbaum, Hirschberger, & Goldenberg). Additional research found that MS reduced males’ attraction to a “seductive” woman but not a “wholesome” woman (Landau et al., 2006), indicating that when reminded of one’s death, there is a tendency to cling to what is perhaps most likely to provide a sense of meaning and purpose.

Goldenberg, Pyszczynski, McCoy, Greenberg, and Solomon (1999) write the following about the long history of sexual anxiety:

The many exotic and bizarre manifestations of human sexuality; the cultural and religious taboos; the vows of celibacy; the often psychologically based sexual dysfunctions; the segregation of the sexes in many cultures; the veiling of women’s faces and the binding of their feet; the secrecy, guilt, shame, and anxiety surrounding sexuality; and the romanticization of sexual relations in literature and real life throughout the ages all attest to the unique complexities of human sexuality. (p. 1175)

From a TMT perspective, the cultural anxiety surrounding sex is a manifestation of the individual anxiety experienced as a result of being reminded of one’s creatureliness through the
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act of engaging in physical sex. As Ernest Becker puts it, “Sex and death are twins. We understand it on at least two levels. The first level is philosophical biological. Animals who procreate, die” (p. 163).

There are other ways besides romanticization to make sex more “meaningful.” Symbolic meaning can be ascribed to purely physical sex via the intention to produce children or the desire to bolster one’s self-esteem through sexual prowess. Despite findings that men and women value romantic relationships over physical relationships when mortality is salient, people regularly engage in risky sexual behavior (e.g., inconsistent condom use, sex with multiple partners) which suggests that there are other influencing factors aside from the need to maintain a close romantic relationship. Research has shown that MS increases the desire to engage in risky sexual behaviors in both men and women (Taubman - Ben-Ari, 2004). The notion that when mortality is salient, men and women tend to cling to the romantic aspects of sex but also engage in riskier sexual behavior is something of a paradox in its own right. An explanation for this is possibly that whatever it takes to alleviate death anxiety is a legitimate target. In other words, what makes one feel good in the moment and bolsters self-esteem could be, in some circumstances, to have passionate physical sex regardless of the risk or potential consequences.

Currently there is no TMHM research that addresses consequences of engaging in risky sexual behavior. While there has been a large amount of research on sex and health behavior, as well as prevention of sexually transmitted infections (Wilton et al., 2009; Kelly, Lesser, & Smoots, 2005), to date there have been no studies on the relationship between MS and the intention to get screened for STIs. Understanding sexual behavior from a TMHM perspective is important for understanding the consequences and possible new interventions to curb risky sexual behavior. In sum, getting screened for STIs is a potential reminder of creatureliness as
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well as a potential threat to self-esteem and worldview maintenance; thus, these are barriers to getting screened.

If focusing on the romantic or otherwise symbolic aspects of sex alleviates death anxiety, then creating STI screening campaigns that focus on those components may prove to be more effective than showing pictures of infections and providing brochures with blatant statistics on STIs. It is the combination of focusing on these aspects as well as avoiding any potentially threatening or “creaturely” information that may prove to be more successful in encouraging individuals to obtain an STI screening. This is consistent with the past literature that already supports the efficacy of relationship based STI interventions in increasing safer sex behaviors as well as increasing intention to get screened for STIs (El-Bassel et al., 2003; Mevissen, Ruiter, Meertens, Zimbile, & Schaalma, 2011). Although relationship based interventions have had some success, they are by no means a complete answer. It is important then to continue to target barriers to getting screened so interventions can properly address them.

TMHM and Body - Esteem

As a result of living in a body-oriented culture, people are submerged in pictures, advertisements, and social feedback of what a human body is and what it should look like. Research is clear that attractive people fare better on the job market and on the job (Hosoda, Stone-Romero, & Coats, 2003), and that although there is a definite rule on what is attractive, the rules are different depending on one’s culture (Guan, Lee, & Cole, 2012). Body-esteem is an area that has been explored using the MS hypothesis, and is an important component of overall self-esteem. If self-esteem is how one feels they are fulfilling the requirements of their worldview, than body-esteem is how one feels their body is meeting either the cultural or personal standards of that worldview. That being said, the body is unique in that it can be a
reminder of creatureliness as well as a symbolic representation of one’s worth in the world. “The physical body offers many salient reminders of our inability to transcend our mere physical nature” (Goldenberg & Shackleford, 2005, p. 230). We are a species plagued with disease, mental and physical.

Body-esteem has been referred to by Mendelson, Mendelson, and White (2001) as “self-evaluations of one’s body or appearance” (p. 90). In order to assess the relationship between MS and body-esteem, Goldenberg, McCoy, Pyszczynski, Greenberg, and Solomon (2000) first asked participants complete Franzoi and Shields (1984) Body Esteem Scale (BES). They then created the Body Identification Questionnaire (BIQ), a measure designed to evaluate the degree to which a person feels their body defines their sense of self. For example, participants were asked to rate from “not at all important to my sense of self” to “extremely important to my sense of self” a variety of body related (liver, skin, and feet) and non-body related (mother, the moon, and feelings) items. Participant’s scores on the BIQ were analyzed against their scores from the BES. They found that those with high levels of body-esteem tended to identify more with their bodies than those with low levels of body-esteem. That is, high scores on the BIQ correlated with high scores on the BES, and low scores on the BIQ correlated with low scores on the BES. The idea that one could separate their “body” from their “self” is reminiscent of the mind-body problem. It stands to reason that high body-esteem individuals identify more with their bodies because they simply like their bodies, their bodies make them feel good. Theoretically then, low body-esteem individuals do not identify with their bodies because they do not make them feel good. It is easier to say “my body is not ‘me.’”

After completing the BIQ, Goldenberg, McCoy, Pyszczynski, Greenberg, and Solomon (2000) administered either a mortality salience or control prime to both high and low body-
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esteem participants and asked them to rate their interest in both the physical and emotional aspects of sex. They found that participants with high body-esteem rated the physical aspects of sex as more desirable than those with low body-esteem. Previously, the physical aspects of sex, as well as the “romantic,” or relationship based aspects were discussed in the context of mortality salience alone. As is apparent, a more comprehensive picture begins to form when body-esteem is considered as a moderating factor.

Research shows that individuals with high self-esteem have been shown to practice safer sex more often than those with low self-esteem (Salazar et al., 2005). So, while high self-esteem may help people practice safer sex, the insinuation that one might need to get screened for STIs may be a stark reminder of one’s creatureliness and may increase the desire to protect one’s body-esteem. Statements such as this one made by the senior Vice President of Planned Parenthood of the Pacific southwest: “Did you know that one in two sexually active young people in the U.S. would contract a sexually transmitted disease by the time they're 25 — and that most won't even know it?” (Reed-Smith, 2014, p. 4) may elicit fear and in turn prompt reminders of creatureliness. High body-esteem may act as a buffer for a portion of that anxiety. That is, an individual with high body-esteem may already feel that he or she is already living up to the worldview of how his or her body “should” look and therefore the STI message, or the thought of getting screened, may not really be seen as a hazard. In contrast, an individual with low body-esteem may see the STI message as a bigger threat and respond with a greater anxiety, and in turn, greater need to bolster their worldview.

Sexually Transmitted Infections

In February 2013 the CDC released new data on STI prevalence in the United States. According to these data, there are currently 110 million Americans infected (roughly 30-35% of
the U.S. population), with 20 million new infections reported every year. The largest at-risk population reported are individuals ages 15-24, with 62-70% of infections occurring in this age group (CDC, 2011). Although there are many factors that contribute to this number, making screening more socially valued and accessible could prevent this epidemic from spiraling even more out of control. Although STIs are common there is still a large stigma around them (Barth, Cook, Downs, Switzer, & Fischhoff, 2002). It is difficult to justify getting screened for something that one might feel would make a person less desirable should the test come back positive, especially if the individual is showing no symptoms and thus feels comfortable with the notion that he/she probably does not have an STI.

Throughout the years fear appeals have been utilized in advertising to motivate individuals to make better health decisions. Catch phrases such as the famous “don’t die of ignorance” slogan from the British Government during the 1980s AIDS epidemic have plastered televisions, newspapers and magazines across the globe. Fear appeals continue to be used today to promote STI screening, despite the fact that evidence for their efficacy is mixed at best (Rotfeld, 1988; Witte & Allen, 2000). Recall that from a Terror Management Health Model standpoint an individual is motivated to deny their mortality and thereby diminish thoughts of death and relieve anxiety. Therefore, a fear appeal that triggers reminders of mortality or creatureliness will only serve to backfire, lending the individual to either ignore the health threat completely or find an alternate way around it.

Given the increasing numbers of infected persons today, it would be beneficial to motivate individuals to obtain regular STI screening by building on tactics that previous research has found effective, such as those that utilize positive and humorous methods (Pedrana, Hellard, Higgs, Asselin, Batrouney, & Stoovè, 2014) and those that promote partner focused testing
(Brown, 2012). Breaking down the barriers hindering people from getting screened for STIs is probably not going to be a matter of fixing one part of a broken system. It will most likely involve reducing the stigma, increasing education, increasing communication, utilizing relationship strategies, and continuing to research. It is the aim of this current research to add something to that list: an understanding of why these methods are effective. Perhaps it is by shifting the focus from the mortal self - fettered to a body - to something that bolsters ones worldview that allows for the individual to circumvent the anxiety that may normally accompany thoughts of getting an STI screening.

**The Current Research**

This current research proposed that, consistent with TMHM, self-esteem striving is more important than nullifying a health threat. That is, while logically it may make sense that an individual get screened for STIs if they are sexually active, if thoughts of death are unconsciously activated then intentions may be lowered no matter how logical the individual may be.

In addition, the current research proposed that body-esteem may act as a moderating variable between MS and intention to screen. That is, different people may respond to different campaigns based on varying levels of body-esteem. To reiterate, according to TMT, self-esteem acts as a buffer that aids in the defense against death anxiety. People with high self-esteem don’t have to “work as hard” to defend their worldview when mortality is salient because they already feel they are living up to the standards of the worldview.

Finally, the current research suggested that STI screening is itself a reminder of creatureliness and in turn, mortality. While STIs are not highly associated with death, as even the morbidity of AIDS has declined (National Center for Health Statistics, 2013), research has
shown that maintaining the symbolic nature of the body helps in the defense of death anxiety (e.g., valuing romantic sex over physical sex when mortality is salient). Asking people to even consider subjecting themselves to screening for infections that are still stigmatized and possibly lifelong may prime creatureliness, and in effect, tear down the symbolic nature of the body. Therefore, exposure to an STI screening campaign should increase death thought accessibility.

In sum, the following hypotheses are presented:

1. If participants are primed to consider their own death (MS), then they will show lower intention to screen for STIs than those who are primed to consider a control topic.

2. If high levels of self-esteem protect people from death anxiety, then people with high levels of body-esteem will show higher intention to get screened for STIs when mortality is salient than people with moderate to low levels of body-esteem.

3. If weakening the psychological structure holding thoughts of death at bay (e.g., cultural worldviews, reminders of creatureliness) increases death thought accessibility, then exposure to an STI screening campaign should increase death thought accessibility.

**Experiment One – The Creaturely Campaign**

**Methods**

**Participants.** Sixty four undergraduate psychology students participated in this study for extra credit. The mean age of the sample was (female = 49, male = 15) 26.53 years old. 32.3% identified as African American, 56.5% identified as White, 3.2 % identified as Hispanic, 3.2 % identified as Middle Eastern, 3.2 % identified as Asian and 1.6% identified as “other.”
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**Measures.** The following measures were used in the order they are described below. For a complete list of measures please see Appendix A.

**Brochures.** The researcher created a tri-fold experimental brochure on sexually transmitted infections using information from the CDC as well as the STI campaign “Get Yourself Tested.” A second control brochure was created by the researcher on dental health, using information from the CDC. The titles of the brochures were “Protect Your Health: Getting Screened for Sexually Transmitted Infections” and “Protect Your Oral Health: Getting Screened for Cavities.” The brochures looked identical in color, font, and style. The STI brochure pulled statistics and facts used in prevention campaigns today. The brochure included statements such as “If you do notice any changes or irritations (like sores) in your genital area, or any unusual discharge or discomfort when urinating, you should see a health care provider as these may be signs of an STI.” “By age 25, an estimated one in two sexually active young people will contract an STI.” A brief overview of the signs and symptoms of chlamydia and gonorrhea were also included. A list of available testing centers was included on the back.

The dental brochure was similar in most aspects to the STI brochure. Statements included those such as “There may be no symptoms, as cavities often have no pain unless they grow very large and begin to affect the nerves.” “67% of people ages 12-19 have had a dental cavity.” An overview of dental sealants was included, as were signs and symptoms of periodontal disease and gingivitis. A list of available dentists was available on the back.

**Brochure quizzes.** The researcher created a quiz to accompany both the STI brochure and a quiz to accompany the dental brochure. Both were seven questions, a mix of multiple choice, true/false and fill in the blank. The quizzes were designed to ensure participants had thoroughly read the brochures.
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*Death thought accessibility.* The measure is a list composed of 25 incomplete words where participants were asked to complete the words with whatever first comes to mind. 6 of the 25 words can be completed in such a way that the complete word is death related or neutral. For example, COFF_ _ can be either “coffin” or “coffee,” but “W_ _ DOW” can only be “window.”

*Demographics.* Age, gender and ethnicity were assessed with three open ended questions; “Please fill out the following information: age, gender, and ethnicity.”

*Procedures*

Undergraduate psychology students were recruited entirely from the online SONA system in place at the University designed for the purpose of research recruitment. Participants were granted extra credit in their class for participation in this study. Six spots were available for every time slot offered, however recruitment was slow and most often the study ran in groups of one to four. Upon arrival at the lab, participants were greeted and asked to sit down, spread out around a large table. The researcher distributed consent forms consistent with human subjects review board requirements. Participants were told the study was designed to assess how people remember information on brochures and asked if there were any questions. If there were no questions the researcher told participants they would each be receiving a brochure to look at for six minutes. Each participant received either the experimental or control brochure consistent with a between subjects design. They were told to please read the brochure very carefully and utilize the full six minutes, as there would be a quiz at the end. To help ensure that participants did not see the other group’s brochure, the brochures were placed inside manila envelopes and distributed among the participants.

When the timer rang, participants placed their brochure back inside the manila envelope and handed it to the researcher. The researcher then distributed a second manila envelope which
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contained the corresponding quiz, the DTA measure and the demographics measure. When all participants had completed the measures the folders were collected and participants were verbally debriefed as well as handed a written debriefing form.

Results

Recall hypothesis three stated that if weakening the psychological structure holding thoughts of death at bay (e.g., cultural worldviews, reminders of creatureliness) increases death thought accessibility, then exposure to an STI screening campaign should increase death thought accessibility. The results of an independent samples t-test supported the null hypothesis of no effect of brochure on DTA (F = .649, p = .423). The mean number of death words completed in the STI condition was 1.60 words, and the mean number completed in the control condition was 1.27 words.

The purpose of this study was to explore whether an STI campaign might act as a creatureliness prime by increasing death thought accessibility. This hypothesis was not supported, as the number of death related words completed did not differ significantly based on condition. As has been discussed, fear campaigns, or those campaigns designed to elicit the desired behavior from shock value or heightened anxiety, have been a controversial topic in social psychology and advertising for decades. This study utilized brochures that were intended to elicit fear regarding sexually transmitted infections and cavities. Perhaps the lack of significance was due to the STI brochure not acting as a sufficient reminder of creatureliness. If that is the case, then perhaps prevention campaigns today such as the “Get Yourself Tested” campaign (where half of the data for the brochure was drawn from) that utilize statistics such as “1 in 2 sexually active young people will get an STD by the time they are 25 – most won’t know it” may not be in the same category as “fear campaigns.”
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It should be noted that TMHM says that *suspicion* of a health problem (provided the health problem is bringing to mind thoughts of death) is enough to prompt an individual to strive to minimize death thoughts. An alternate but equally plausible explanation is that the control brochure may have been too similar to the STI brochure in terms of priming creatureliness. The dental condition was chosen as it is a commonly used parallel to mortality salience in TMT literature, but it is probable that the dental brochure acted as a creatureliness prime in its own right and therefore no significant differences in death words were found. Future research should avoid using a second health related topic as a control variable. Perhaps a brochure utilizing the “romantic” or partner focused aspects of sex may have been a more appropriate control.

**Experiment Two – Pilot Development of the Theory of Planned Behavior Measure**

**Theory of Planned Behavior**

Icek Ajzen’s Theory of Planned Behavior (TPB, 1991) model (See Figure 1), states that *intention* that leads to actual behavior is preceded by *attitudes* toward the behavior, *beliefs about who* is likely to engage in this behavior (normative), and *beliefs about the ability* one has to engage in this behavior (control; Ajzen, 1991). Research has shown that “as a general rule, when behaviors pose no serious problems of control, they can be predicted from intentions with considerable accuracy” (Ajzen, 1991, p. 8). TPB has been shown to be an accurate assessment of intention to engage in a given behavior, especially in self-report measures as opposed to observed measures (Armitage & Conner, 2001).
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Figure 1. Theory of Planned Behavior Model

Methods

Participants. Forty-four undergraduate psychology students participated in the current study. There were twenty-five participants in the first session and nineteen in the second. Forty-two participants indicated they were between the ages of 18 and 24, 1 was between the ages of 25 and 34, and 1 was between the ages of 35 and 44. There were a total of 34 females and 10 males. 65.9% were white, 15.9% were black, 4.5% were Asian, and 13.6% were from multiple races.

Measures. Directions for constructing a TPB-guided measure are available online on Ajzen’s website (http://people.umass.edu/aizen). According to these guidelines, construction of the measure is broken up into two sessions; a free format session followed by a content analysis, and a pilot test of questions followed by a factor analysis. In the first session, participants were asked to write what the advantages and disadvantages to getting screened were, and anything else that came to mind about getting screened for STIs in the next month. They were asked to write about their normative beliefs about getting screened for STIs; who they think gets screened, three people who would approve and three people who disapprove and why. They were
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told not to name specific names but to describe the relationship to the individual, such as “my parents.” Finally the measure asked participants to write about their control beliefs by listing things that would make it easier or more difficult to get screened.

In the typical TPB questionnaire, there are one or two questions for each domain of the model (attitudes, normative beliefs, control beliefs, intentions and motivation to comply). Assessing the participant’s attitudes and beliefs has provided a reliable picture of the precursors of a person’s behavior. The final TPB measure contained thirteen items; three items assessing normative beliefs (α = .768), two items assessing attitudes towards STIs (α = .817), two items assessing intentions to screen (α = .899), three items assessing motivation to comply, and three items assessing perceived behavioral control (α = .541). All items were scored on a seven point Likert type scale.

Procedures

The first session of the study was administered online on SurveyMonkey.com to 25 undergraduate psychology students at Eastern Michigan University. Prior to administration, participants were asked to complete a consent form consistent with Human Subjects Review Board regulations. They were informed on the nature of the study and reminded that participation was voluntary, that they could exit the study at any time. After the free format answers had been collected, the researcher performed a content analysis. All words were coded with a number to represent their meaning. For example, the phrases “It can be scary” and “it can make me anxious” were coded “7” as being “fear.” From this content analysis, 20 true or false statements were created. The 20-item measure was administered online on SurveyMonkey.com to the second session of 19 introductory psychology students for course credit, after the same HSRB regulations had been followed.
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Results

The pilot data was subjected to a confirmatory factor analysis with direct Oblimin rotation and five factors emerged. The first factor accounted for 29.5% of the variance. Five items had reliability of $\alpha = .6$ or better, and the top three were retained for the final measure. Three items loaded on both the second and third factors which accounted for 17.9% and 15.2% of the variance respectively. All had reliability of $\alpha = .6$ or better but for both factors only two items were retained for the final measure as further analysis revealed increased reliability if one item was deleted. Three items loaded on both the fourth and fifth factors and they accounted for 9.4% and 7.1% of the variance respectively. Each item had a reliability of $\alpha = .5$ or better and all items were retained. The final measure was 13 items in total, with two to three questions assessing normative beliefs about sexually transmitted infections (Most people who are like me get screened for sexually transmitted infections on a semi-regular basis), attitudes towards STIs (For me, screening for sexually transmitted infections is embarrassing), intention to screen for STIs (I intend to get screened for Sexually Transmitted Infections in the next month), motivation to comply with a person of perceived authority (Generally speaking, I care about what my parents think of the decisions I make), and perceived behavioral control (Whether or not I get screened for sexually transmitted infections is completely up to me).

Experiment Three – Intention to Screen for Sexually Transmitted Infections

Methods

Participants. One hundred fourteen participants participated in the current study. There were 82 females, 30 males and 2 who did not respond. The mean age was 23.24 years old (std. dev. = 6.23 years). Twenty one percent identified as freshman, 21% as sophomores, 23% as juniors, 29% as seniors and 2.6% as grad students. Fifty two percent identified as Christian,
15.7% as agnostic or atheist, 1.8% as Muslim, and 20.2% as “spiritual but not religious.” The majority of the sample identified as “Caucasian/white” (60.5%) or “African American/black” (19.3%). Seven percent identified as “Asian/pacific Islander,” 4.4% as “Hispanic,” 3.5% as “Native American,” and 2.6% as “other” or had multiple checked boxes.

**Measures.** The following measures were used in the current study and are listed in the order they appeared. For a complete list of measures please see Appendix A.

**Body-esteem scale.** The Body-esteem Scale (BES) was created by Franzoi and Shields (1984) as a new measure of how individuals perceive their own bodies. Body-esteem is thought to be “an important dimension of general self-esteem” (Franzoi & Shields, 1984, p. 1). Factor analysis of this new measure found that body-esteem is a multidimensional construct, whereas previous measures treated it as a one-dimensional construct. Using this new measure, significant differences between males and females were also found and considered. The BES is composed of a list of 35 body parts and movements (e.g., arms, nose, physical coordination) on a 5-point Likert scale ranging from 1 (have strong negative feelings) to 5 (have strong positive feelings). The scale is comprised of six different subscales, three for males and three for females. Subscales can be added together to get an overall score of for body-esteem or kept separate for more nuanced investigation. Overall body-esteem is the focus of the current research, therefore only the total scores were used. Overall scores range from 35-175. The BES has shown test-retest reliability after a 3-month delay; all correlations for overall scores were significant at $p < .001$ (Franzoi, 1994).

Convergent and discriminate validity was found in both Franzoi and Sheilds (1984) and Franzoi and Herzog’s (1986) work. Inter-item correlations between the BES and the Self-Esteem Scale (Rosenberg, 1965) were significant, indicating convergent validity for body-esteem as a
source of overall self-esteem. Discriminate validity was also found in Franzoi and Herzog (1986) using the Body Consciousness Questionnaire (BCQ; Miller, Murphy, & Buss, 1981). Self-awareness is weakly, if at all, related to self-esteem (Franzoi, & Herzog, 1986) and no significant correlation was found between the BES and the BCQ.

**Mortality salience.** Participants received either a mortality salience prime designed to make them cognizant of their own mortality or a control prime. The mortality salience prime is the same one used in most TMT studies and is available on the TMT website (Cox & Arndt, 2008). It is titled “Projective Life Attitudes Assessment” in order to provide validity to the cover story, which describes it as an innovative personality measure. This prime asks participants to “please briefly describe the emotions that the thought of your own death arouses in you.” As well as “jot down, as specifically as you can, what you think will happen to you as you physically die and once you are physically dead.”

The control measure is exactly the same except that instead of asking about death, it asks about going to the dentist; “please briefly describe the emotions that the thought of going to the dentist arouses in you.” As well as “jot down, as specifically as you can, what you think will happen to you as you physically sit down in the dentist chair.” The rationale that has been given for this is that going to the dentist is still an unpleasant thing to think about, but it should not arouse any thoughts of death. A meta-analysis of MS literature found medium effect sizes across a wide variety of MS manipulations, with an average $r = .35$ (Burke, Martens, & Faucher, 2010).

**Filler item.** It has been well documented that the mortality salience prime works best after a delay, so the next questionnaire is simply a filler item. The measure is a three paragraph essay, “The Growing Stone,” taken from *Exile and the Kingdom* (Camus, 1957). This is the same
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piece of literature used in other MS experiments as a filler item (Greenberg, Pyszczynski, Solomon, Simon, and Breus (1994).

Death thought accessibility. The same measure used to assess DTA that was used in experiment one was used in the current experiment.

Theory of planned behavior. The thirteen item TPB measure pilot tested in experiment two was used as the dependent measure for attitudes towards STIs and intention to screen.

Behavioral measure. In addition to the TPB measure described above, a behavioral measure was also employed where participants had the opportunity to take a post-it note that read “If you are interested in getting tested for STIs, please feel free to take this note and post it somewhere helpful to you!” The note listed three different local testing centers along with contact information. This measure was ostensibly a secondary measure of intention to screen. The researcher recorded whether or not the participant took the note as “0” or “1.”

Sexual history. To control for attitudes towards sexual behavior, as well as past sexual behavior in connection with intention to screen, the packet of materials included a sexual history survey. This measure appeared after the TPB measure in order to control for the possibility that being reminded of one’s sexual history may influence intention to get screened. Turchik and Garkse’s Sexual Risk Survey (2009) is a 23-item questionnaire in which participants are asked to indicate the number of times they have engaged in a given behavior in the last 6 months. Specific definitions are given for what constitutes “sex” and “sexual behavior.” The survey covers questions such as “How many partners have you engaged in sexual behavior but not had sex with?” “How many partners have you had sex with?” and “How many partners (that you know of) have you had sex with who had been sexually active before you were with them but had not been tested for STIs/HIV?” This survey has demonstrated high internal consistency in past
studies (α = .88), and adequate test-retest reliability after two weeks was found (α = .93). Each item loaded on at least one of five factors. In total, all factors counted for 61.01% of the total variance. Item loadings on each of the five factors ranged from .53 to .88. There were no significant differences between males and females; Male (M = 20.14, SD = 14.89), Female (M = 15.63, SD = 11.29).

The scale showed convergent validity across demographic variables as well as with 5 other scales assessing sexual behavior. A degree of discriminant validity was found with negative correlations between high scores on the SRS and age of first sexual experience (oral or vaginal).

Commitment subscale. Research has shown that people who are in a monogamous relationship are less likely to get tested for STIs (Agnew & Dove, 2011). For those in a committed relationship, commitment to a relationship was measured using the commitment subscale of Rusbult, Martz and Agnew’s Investment Model Scale (1998). This scale has shown high reliability and allowed the researcher to get a broader understanding of which participants were serious about maintaining their commitment, since being in a monogamous committed relationship could potentially confound intention to get screened.

Demographics. Demographics assessed were gender, age, class standing, religious beliefs, and ethnicity. Gender was categorized as either male or female. Class standing was categorized as “freshman, sophomore, junior, senior and grad student.” Religious beliefs were categorized as “agnostic, atheist, Christian, Jewish, Muslim, spiritual but not religious, and ‘other.’” Ethnicity was categorized as “African American/black, Asian/pacific islander, Caucasian/white, Hispanic/Latino, Native American, and ‘other.’”
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Procedures

Participants were recruited primarily from various undergraduate psychology classes (via the SONA system, which is already in place for departmental recruitment of participants) and received extra credit in their respective classes for participating. Secondary recruitment was sought through the use of recruitment flyers, advertising five dollars to each participant who was not currently enrolled in an undergraduate psychology course at EMU. The flyer was distributed by hand by the researcher around campus.

Dependent upon how many individuals signed up for the sessions there were between one and six people in each group. For the psychology students, the experiment was run in a lab room with a large table and chairs. Many of the non-psychology students had difficulty meeting at the lab room and so the researcher met with the participant at a local coffee shop. Time and attention was taken to ensure that as many variables remained similar despite the experiments being performed in different locations. For example, the researcher always used the same script, always made sure to execute the experiment in as quiet an environment as possible, and always asked participants to please refrain from eating or drinking during the experiment.

Upon arrival, participants were greeted and given a consent form. A majority of Terror Management Theory research uses personality assessment as the cover story to protect the integrity of the mortality salience manipulation (Burke, Martens, & Faucher, 2010). The study was described as assessing the effects of sexual behavior on personality type. The researcher verbally went over the supposed nature of the study, reminded them of the voluntary nature of the study, and of the confidentiality portion of the consent form. If there were no questions the consent forms were collected. The measures were in the order they are listed above inside individual manila envelopes. Participants were instructed to please complete them in the order
they were presented with their first natural response. The researcher was blind to the conditions and folders were distributed randomly. Upon completion, participants closed their folders and sat patiently until all others had finished.

Upon completing the packet of questionnaires, all participants were debriefed thoroughly on the true nature of the study and were given an opportunity to ask any questions or raise any concerns. They were given a brief oral overview of TMHM and the nature of the study as attempting to understand barriers preventing college students from screening for STIs. Participants were probed for suspicion and were given a written debriefing form with the researcher’s contact information in the event that they had any future questions or concerns.

Results

Prior to any analyses an outlier check was performed to check for data entry errors. All data were subject to list-wise deletion. A manipulation check was performed using an independent samples t-test. Analysis revealed no effect of condition on number of death words completed ($F = .875, p = .352$, $m_{\text{mortality salience}} = 1.82$, std. dev. = .98, $m_{\text{control}} = 1.63$, std. dev. = 1.08). Independent samples t-tests and a chi square analysis were run to test whether or not participants who were primed to consider their own death would show lower intention to screen for STIs than those who were primed to consider a control topic. None of these analyses came near significance which is not surprising given the lack of significance on the manipulation check. Either the mortality salience manipulation did not work, or the DTA measure did not measure what it purported to measure. Three different versions of the DTA are available. The one that was used in these studies was chosen at random. Although one measure was not reported more reliable than the other, it is possible that for this sample, a different version would have provided more valid results.
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Two of the three dependent variables were taken from the Theory of Planned Behavior Measure, “I plan to get screened for STIs in the next month” and “I intend to get screened for sexually transmitted infections in the next month.” The third was the behavioral measure, the post-it note participants had the option to take or leave at the end of the TPB measure. Overall for the measure “plan to screen,” 52.6% indicated they had no plan to screen, 8.8% indicated they were neutral, and 12.3% indicated they planned to screen. For the measure “I intend to screen” 49% indicated they had no intention, 13.2% were neutral, and 10.5% indicated they intended to screen (see Figure 2). Finally, overall 16.7% of participants took the note and 82.5% left it in the folder.

![Figure 2. Overall willingness to screen for STIs.](chart)

A filter was added so that only participants who were single and had been sexually active in the last 6 months were included in the sample. 40% said they had no plan to screen, 10% were neutral, and 22.5% planned to screen. 35% indicated they had no intention to screen, 10% indicated they were neutral, and 20% intended to screen. In this sample, 20% took the post-it note, and 80% did not.

A one-way ANOVA revealed a significant effect of condition on the attitude toward STI measure (Ms: mortality salience = 2.31, control = 3.23): “For me, screening for sexually
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transmitted infections is embarrassing” (F = 4.86, p = .029). Of the two intention to screen measures (Table 1) (“I plan to test” (F = .419, p = .519, m\textsubscript{ms} = 2.73, m\textsubscript{c} = 2.63), and “I intend to test” (F = .601, p = .440, m\textsubscript{ms} = 2.75, m\textsubscript{c} = 2.68) neither were significant. A chi square analysis revealed no significant effect of condition on the behavioral measure (\(\chi^2 = 1.516, p = .469\)). None of the other TPB questions were significant.

Table 1

<table>
<thead>
<tr>
<th>Measure</th>
<th>F</th>
<th>p</th>
<th>Condition</th>
<th>Mean No. of Death Words</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I plan to get screened for STIs in the next month</td>
<td>.419</td>
<td>.519</td>
<td>Mortality Salience</td>
<td>1.82</td>
<td>.98</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Control</td>
<td>1.63</td>
<td>1.08</td>
</tr>
<tr>
<td>I intend to get screened for STIs in the next month</td>
<td>.601</td>
<td>.440</td>
<td>Mortality Salience</td>
<td>2.75</td>
<td>2.34</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Control</td>
<td>2.68</td>
<td>2.09</td>
</tr>
<tr>
<td>For me screening is embarrassing</td>
<td>4.86</td>
<td>.029</td>
<td>Mortality Salience</td>
<td>2.31</td>
<td>1.94</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Control</td>
<td>3.23</td>
<td>2.44</td>
</tr>
</tbody>
</table>

Mean body-esteem was 121.43 with 58 participants scoring 121 or lower and 56 participants scoring 122 or higher. 121 was thus considered the cut point, with all participants scoring at or below considered to have low body-esteem, and all participants scoring higher to have high body-esteem. High and low body-esteem was dummy coded, and although no a priori hypothesis had been made, a significant relationship between high/low body-esteem and number of death words was found (F = 5.578, p = .020), such that those with high body-esteem (m = 1.77, std. dev. = .122) wrote a greater number of death words than those with low body-esteem.
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(m = 1.69, std. dev. = 1.14). However linear regression revealed no effect when body-esteem was considered a continuous variable (F = 1.575, p = .218).

A MANOVA was conducted to assess the relationship between condition and body-esteem. Analyses revealed no effect on any of the three intention to screen measures (Table 2) (“plan to test” (F = .457, p = .713), “intend to test” (F = .283, p = .838), or the behavioral measure (F = .902, p = .443).

Table 2

<table>
<thead>
<tr>
<th>Condition</th>
<th>Body-Esteem</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Intend to Screen</td>
<td>Mortality Salience</td>
<td>High</td>
<td>2.60</td>
<td>2.19</td>
<td>.283</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>2.92</td>
<td>2.32</td>
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<td></td>
<td>Control</td>
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<td>Low</td>
<td>2.87</td>
<td>2.19</td>
<td></td>
</tr>
<tr>
<td>I plan to Screen</td>
<td>Mortality Salience</td>
<td>High</td>
<td>2.93</td>
<td>2.39</td>
<td>.457</td>
</tr>
<tr>
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<td>Low</td>
<td>2.51</td>
<td>2.15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>High</td>
<td>2.34</td>
<td>2.13</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Low</td>
<td>2.87</td>
<td>2.11</td>
<td></td>
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</tbody>
</table>

In order to determine if the lack of effect was in part due to body-esteem having been considered a dichotomous variable, a multiple regression was run where body-esteem was considered a continuous variable. It was found that that neither condition nor body-esteem were significant predictors of the measures “plan to test” (β = -.021, p = .824, β = .037, p = .696); “intend to test” (β = -.016, p = .864, β = .000, p = .999), or the behavioral measure (β = .088, p = .355, β = -.029, p = .763). As no significant results were found, no further analyses were conducted.

The second hypothesis stated that people with high levels of body-esteem would show higher intention to screen for STIs when mortality was salient than people with low levels of
INTENTION TO SCREEN

body-esteem. Body-esteem was considered as both a dichotomous and a continuous variable to account for the potential that performing a median split on a continuous variable would negatively affect the outcome. To consider the interaction effect of body-esteem and condition on intention to screen required first that the mortality salience prime work effectively. As it did not, the results must be analyzed with that in mind. No significant increase in death thought accessibility potentially means there was no increase in worldview defense. As has been discussed, the individuals with high body-esteem have a tendency to identify more with their bodies. Therefore, reminders of death should prompt them to cling to what makes them feel better – their own bodies. It is notable then that there was a significant effect of level of body-esteem on death thought accessibility, such that those with high body-esteem had higher DTA than those with low body-esteem. This runs contrary to TMT which argues that individuals with high levels of self-esteem are better protected from thoughts of death. However the effect disappeared when body-esteem was considered as a continuous variable.

Terror Management Health Model says that, when facing a health decision (not just when blatantly reminded of death), people should tend to cling to what increases their self-esteem as well as act defensively to protect their cultural worldview, rather than behave in a way that would actually minimize the health threat. This study found that half of the participants indicated they had no intention to screen for STIs regardless of condition. While this was not experimentally manipulated, this finding has relevance to the theoretical underpinnings of this experiment. Recalling the first proposition from TMHM, when one is faced with a direct health problem, thoughts of death may be consciously activated. Health behaviors should then be directed by the need to suppress the thoughts of death rather than the need to avert the health threat. Screening is the key to knowing whether or not one has an STI, and while this study did
not assess the reasons behind participant’s intentions to screen (or not screen), the fact that the majority of them showed no intention to screen could be suggestive of evidence towards proposition one of TMHM. Further research is necessary.

**General Discussion**

Terror Management Theory exquisitely allows researchers to address two ideas as old as time itself: the fear of death and the need for self-esteem. Sheldon Solomon once said that “these ideas are like poetry.” The brilliance and yet the brevity of the human life is something so profound that sometimes to be human, to be aware of the existence and the ending of it all does feel like magic. It is the great paradox, to crave life and know it will fail. Erwin Schrodinger wrote of the knowledge of life and death with his cat in a box decades before Becker wrote the Denial of Death. Before Schrodinger, Jesus, and before him, Socrates. The idea is not new. That the experimental psychologist has been gifted with the ability to scientifically test these existential ideas through the use of theories such as TMT is not to be taken lightly.

There is no doubt that TMT and the Health Model have their critics. The trouble with experimentally testing existential ideas is that it’s much harder to tell if you have fallen into a black hole. The mortality salience prime did not work in this study to increase thoughts of death. A main tenant of the mortality salience hypothesis is that the MS prime will increase worldview defense. The model says that a delay should suppress the thoughts of death so that they are active, but in the unconscious. Following a MS prime then, the Death Thought Accessibility measure should, ostensibly, measure the unconscious thoughts of death (Hayes, Schimel, Arndt, Faucher, 2010). That this study did not find these effects is not entirely uncommon. One published study has had trouble finding the effect of increased death thought accessibility after the mortality salience prime (Trafimow & Hughes, 2012).
INTENTION TO SCREEN

Perhaps the MS prime worked just as it was intended to, but participant’s body-esteem was not related to their worldview as predicted. Previously, individuals with high body-esteem were found to identify more with their bodies than those with low body-esteem. As a result of living in a body-oriented culture it was assumed that those high body-esteem individuals would be better protected from thoughts of death and show a higher rate of intention to screen than those with low body-esteem. Although body-esteem is an important component of overall self-esteem, perhaps it does not operate the same as self-esteem when it comes to mortality salience. Future research might look at body-esteem and the individual’s worldview. That is, the researcher may look at individual investment in the worldview before making the assumption that because body-image is culturally valued, it is individually valued.

To reiterate, the aim of this research was to use Terror Management Health Model to assess barriers preventing people from getting screened for STIs. That the results were non-significant is something significant in itself. Both the dental condition and the mortality salience condition produced the same low intention to screen outcomes. A possible explanation is that the dental condition reminded participants just as much of their physicality, of their creatureliness, as did the mortality salience condition. Perhaps creatureliness is the barrier to focus on. If that is the case than using reminders of one’s physicality (e.g., reminders of what may happen to one’s body were they to contract an STI) would not be the correct route to take.

As reminders of creatureliness are thought to be barriers to screening it is important to discuss possible campaigns that may prove effective. Regardless of the individual’s level of body-esteem, perhaps campaigns that shift the focus away from the body and on to a separate target might bypass this barrier. For example, as has been discussed, previous research has found that relationship based interventions are more effective than individual interventions (El-Bassel
INTENTION TO SCREEN

et al., 2003). Perhaps the relationship is a more meaningful target. By putting the relationship first people are able to dismiss thoughts of death or of creatureliness. Of course not everyone who needs and STI screening is in a relationship or identifies with relationship based interventions. Perhaps a campaign that used the slogan “be a hero, screen for STI’s” would shift the focus onto boosting self-esteem and making the individual feel like they are doing something valiant rather than embarrassing or creaturely.

Another campaign strategy that was mentioned that has had some success has been the use of humor (Pedrana, Hellard, Higgs, Asselin, Batrouney, & Stoovè, 2014). It is difficult to make an STI prevention campaign that is not full of creaturely and frightening information. Making light of STIs is a challenge on top of a challenge! If done appropriately, using humor may allow the individual to dismiss any subtle reminders of death or creatureliness allowing the focus to shift on to the message at hand (be a hero!). Future research might look at both the suggested campaign strategies from a TMHM perspective.

It is possible that the lack of significance stemmed from lack of reliability in the Theory of Planned Behavior measure. Although the model has been used for decades, the measure developed in this study was not extensively tested. Further analyses to determine the reliability and validity of the measure would have assisted this study. Questions such as “when was the last time you were screened” “have you ever been screened” would have benefited the analysis greatly. Asking participants if they planned to screen in the next six months, rather than the next month perhaps would have shown increased intention to screen. Additionally, larger sample sizes in studies one and three may have aided in garnering significant results. If not larger, perhaps limiting the samples to women only would have produced meaningful effects.
Regardless of significance, the motivating factor driving this research still stands; the millions of people suffering from STIs today. That is why it is important to continue to research the barriers preventing men and women from getting screened. One day people will live in a world where STIs are not an incredibly common phenomena. They will live in a world where screening is less frightening, is more socially valued, and is a more accessible task. Until that day may those of us who are willing, continue to fight to see that dream become a reality.
References


INTENTION TO SCREEN


INTENTION TO SCREEN


INTENTION TO SCREEN


INTENTION TO SCREEN


INTENTION TO SCREEN


STI brochure

Chlamydia
✓ Chlamydia is a bacterial infection and is the most frequently reported STI.
✓ People get chlamydia by having anal, vaginal or oral sex with an infected person.
✓ It is common to have no signs or symptoms so quite often people do not know they have it unless they get tested.
✓ The most common symptom reported is burning when urinating.
✓ Untreated chlamydia can lead to ectopic pregnancies, infertility in women, complications in pregnancies, and may increase the chance of acquiring HIV

Gonorrhea
✓ Gonorrhea is another common STI. While it is common and treatable, most women and some men have no symptoms.
✓ It is estimated that less than half of the cases of gonorrhea are actually

Appendix A

Available STI Testing

- Eastern Michigan University
  Snow Health Center, 2nd Floor
  (734) 487-1122

- Planned Parenthood Mid and South Michigan Ypsilanti Health Center
  (734) 485-0144 or
  www.plannedparenthood.org/midsouthmi

- Free Rapid Testing HIV Screening at
  The Safe Sex Store (Call Ahead)
  1209 South University Drive
  Ann Arbor, MI 48104
  Phone: 734-741-1434

- Corner Health Center
  47 N Huron St
  Ypsilanti, Michigan 48197
  (734) 484-3600
What Are Sexually Transmitted Infections?

- Sexually Transmitted Infections (STIs) or Sexually Transmitted Diseases (STDs) are infectious diseases often spread through sexual contact.
- STIs can also be spread through sharing needles (drugs, tattoos, and body piercings).
- STIs are very common, every year in the U.S. there are more than 19 million new cases reported.
- If you think it can’t happen to you...think again.

Why Should I Get Tested?

- The only way to know if you or a partner has an STI is to get tested.
- Putting off getting care for an STI can have lasting health effects for both women and men.
- Left untreated, some STIs can cause infertility.
- Some can also increase your risk of getting cancer and even dying.

By age 25, an estimated one in two sexually active young people will contract an STI

- Having an STI increases your risk of getting HIV and other STIs if you have sex with an infected partner.
- Since STIs often show no symptoms, many of those who are infected don’t know it. The only way to know if you or a partner has an STI is to get tested.
- If you do notice any changes or irritations (like sores) in your genital area, or any unusual discharge or discomfort when urinating, you should see a health care provider as these may be signs of an STI.
Control Brochure

Gingivitis
- Gingivitis is another common threat to oral health. While it is common and treatable, it causes the gums to become red, swollen, and bleed easily.
- Gingivitis is often caused by inadequate oral hygiene. Gingivitis is reversible with professional treatment and good oral home care.
- Gingivitis can however, advance to periodontal disease.

Periodontal Disease
- Periodontal Disease is another one of the biggest threats to oral health.
- Bacteria in the mouth infects tissue surrounding the tooth, causing inflammation around the tooth leading to periodontal disease.
- Risk factors that contribute to periodontal disease are: smoking, heredity, crooked teeth, diabetes, taking medications that cause dry mouth, stress, and poor hygiene.
- To help prevent periodontal disease it is important to brush and floss regularly.

Available Area Dentists
- University of Michigan Community Dental Center
  406 N. Ashley Ann Arbor, MI
  734-763-6933
- Whittaker Road Dental
  1820 Whittaker Road
  Ypsilanti, MI 48197
  734-480-3600
- Delta Dental
  DeltaDental.com
  Low cost dental insurance
  More information on Oral Health

Protect Your Oral Health
Getting Screened for Cavities
What are Dental Cavities?
- Dental Cavities, or tooth decay, are holes formed in the tooth as a result of built-up plaque on the tooth.
- Plaque is just a combination of bacteria, acid, food pieces, and saliva.
- There may be no symptoms, as cavities often have no pain unless they grow very large and begin to affect the nerves.

If you think it can’t happen to you…think again!

Why Should I Get Regular Cleanings?
- The only way to know for sure if you have a cavity is to go to the dentist.
- Putting off getting care for a cavity can have lasting health effects.
- Left untreated, cavities can lead to periodontal disease, and tooth loss.

67% of people ages 12-19 have had a dental cavity.

What are Dental Sealants?
- Sealants prevent tooth decay and also stop cavities from growing.
- The CDC (2013) reports that “findings from scientific studies clearly show that school dental sealant programs work to stop tooth decay.”
- A sealant can last for as long as 5 to 10 years.
- Dental Sealants are currently being considered and tested in schools to prevent cavities in children.
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Brochure Quizzes

STI quiz.
1. One reason why you should get tested that was listed in the brochure is
   a. The only way to know if you or a partner has an STI is to get tested
   b. Putting off getting care for an STI can have lasting health effects for both women and men.
   c. Left untreated, some STIs can cause infertility
   d. All of the above
2. True or False, Having an STI increases your risk of getting HIV and other STIs if you have sex with an infected partner.
3. True or False, Chlamydia is untreatable.
4. Sexually Transmitted Infections can be spread through which of the following?
   a. Sexual Intercourse
   b. Oral Sex
   c. Sharing body piercing needles
   d. All of the above
5. True or False, having an STI increases your chance of getting HIV
6. Untreated chlamydia can lead to which of the following?
   a. ectopic pregnancies
   b. perfect pregnancies
   c. Gonorrhea
   d. Liver failure
7. List one place that was listed as an available STI testing center

Cavity quiz.
1. One reason why you should get regular screenings that was listed in the brochure is
   a. The only way to know for sure if you have a cavity is to go to the dentist.
   b. Putting off getting care for a cavity can have lasting health effects.
   c. Left untreated, cavities can lead to periodontal disease, and tooth loss.
   d. All of the above
2. True or False, it is possible to have a cavity without having signs or symptoms.
3. True or False, gingivitis is treatable
4. Risk factors that contribute to periodontal disease include which of the following??
   a. Diabetes
INTENTION TO SCREEN

b. Smoking

c. Heredity

d. All of the above

5. True or False, dental sealants last up to 15 years.

6. Untreated gingivitis can lead to which of the following?
   a. plaque
   b. periodontal disease
   c. tartar
   d. food buildup

7. List one place that was listed as an available dental center.

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Death thought accessibility. SAMPLE WORD COMPLETION TASK

We are simply pre-testing this questionnaire for future studies. Please complete the following by filling letters in the blanks to create words. Please fill in the blanks with the first word that comes to mind. Write one letter per blank. Some words may be plural. Thank you.

1. BUR _ _ D
2. PLA _ _
3. _ _ OK
4. WAT _ _
5. DE _ _
6. MU _ _
7. _ _ NG
8. B _ T _ LE
9. _ _ _ _
10. _ _ _ _
11. _ _ _ _
12. _ _ _ _
13. _ _ _ _
14. CHA _ _
15. KI _ _ ED
16. CL _ _ K
17. TAB _ _
18. W _ _ DOW
19. SK _ _ L
20. TR _ _
21. P _ P _ R
Appendix B

Experiment Three Measures

Body esteem scale. Instructions: On this page are listed a number of body parts and functions. Please read each item and indicate how you feel about this part or function of your own body using the following scale:

1 = Have strong negative feelings
2 = Have moderate negative feelings
3 = Have no feeling one way or the other
4 = Have moderate positive feelings
5 = Have strong positive feelings

---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
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1. body scent
2. appetite
3. nose
4. physical stamina
5. reflexes
6. lips
7. muscular strength
8. waist
9. energy level
10. thighs
11. ears
12. biceps
13. chin
14. body build
15. physical coordination

16.
17.
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23.
24.
25.

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16. buttocks
17. agility
18. width of shoulders
19. arms
20. chest or breasts
21. appearance of eyes
22. cheeks/cheekbones
23. hips
24. legs
25. figure or physique
26. sex drive
27. feet
28. sex organs
29. appearance of stomach
30. health
31. sex activities
32. body hair
33. physical condition
34. face
35. weight

**Mortality Salience Manipulation**

On the following page are two open-ended questions, please respond to them with your first, natural response.

We are looking for peoples’ gut-level reactions to these questions.

**The Projective Life Attitudes Assessment**

This assessment is a recently developed, innovative personality assessment. Recent research suggests that feelings and attitudes about significant aspects of life tell us a considerable amount about the individual’s personality. Your responses to this survey will be content-analyzed in order to assess certain dimensions of your personality. Your honest responses to the following questions will be appreciated.

1. **PLEASE BRIEFLY DESCRIBE THE EMOTIONS THAT THE THOUGHT OF YOUR OWN DEATH AROUSES IN YOU.**

2. **JOT DOWN, AS SPECIFICALLY AS YOU CAN, WHAT YOU THINK WILL HAPPEN TO YOU AS YOU PHYSICALLY DIE AND ONCE YOU ARE PHYSICALLY DEAD.**
INTENTION TO SCREEN

Control:

1. PLEASE BRIEFLY DESCRIBE THE EMOTIONS THAT THE THOUGHT OF GOING TO THE DENTIST AROUSES IN YOU.

2. JOT DOWN, AS SPECIFICALLY AS YOU CAN, WHAT YOU THINK WILL HAPPEN TO YOU AS YOU PHYSICALLY GO TO THE DENTIST AND ONCE YOU ARE PHYSICALLY IN THE DENTIST CHAIR.

Filler Item

The personality portion of the survey is over. Now, we would like you to complete a few different attitude tasks. As was stated earlier, research suggests that attitudes and perceptions about even very common everyday items may be related to basic personality characteristics. To further examine this idea, we would like you to complete the opinion questionnaires on the following pages with your most natural response. Please follow the instructions provided and complete the questionnaires in the order they are presented. That is, do not skip around.

Opinion Questionnaire 1: Literature

Please read the following short passage from a novel and answer the questions below it.

The automobile swung clumsily around the curve in the red sandstone trail, now a mass of mud. The headlights suddenly picked out in the night—first on one side of the road, then on the other—two wooden huts with sheet metal roofs. On the right near the second one, a tower of course beams could be made out in the light fog. From the top of the tower a metal cable, invisible at its starting-point, shone as it sloped down into the light from the car before disappearing behind the embankment that blocked the road. The car slowed down and stopped a few yards from the huts.

The man who emerged from the seat to the right of the driver labored to extricate himself from the car. As he stood up, his huge, broad frame lurched a little. In the shadow beside the car, solidly planted on the ground and weighed down by fatigue, he seemed to be listening to the idling motor. Then he walked in the direction of the embankment and entered the cone of light from the headlights. He stopped at the top of the slope, his broad back outlined against the darkness. After a moment he turned around. In the light from the dashboard he could see the chauffeur’s black face, smiling. The man signaled and the chauffeur turned off the motor. At once a vast cool silence fell over the trail and the forest. Then the sound of the water could be heard.

The man looked at the river below him, visible solely as a broad dark motion flecked with occasional shimmers. A denser motionless darkness, far beyond, must be the other bank. By looking fixedly, however, one could see on that still bank a yellowish light like an oil lamp in the distance. The big man turned back toward the car and nodded. The chauffeur switched off the lights, turned them on again, then blinked them regularly. On the embankment the man appeared and disappeared, taller and more massive each
INTENTION TO SCREEN

time he came back to life. Suddenly, on the other bank of the river, a lantern held up by an invisible arm back and forth several times. At a final signal from the lookout, the man disappeared into the night. With the lights out, the river was shining intermittently. On each side of the road, the dark masses of forest foliage stood out against the sky and seemed very near. The fine rain that had soaked the trail an hour earlier was still hovering in the warm air, intensifying the silence and immobility of this broad clearing in the virgin forest. In the black sky misty stars flickered.

How do you feel about the overall descriptive qualities of the story?

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<th>7</th>
<th>8</th>
<th>9</th>
</tr>
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<tr>
<td>not at all</td>
<td>somewhat</td>
<td>very</td>
<td></td>
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<td>descriptive</td>
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Do you think the author of this story is male or female?

_______ male       _______ female

---

**Theory of Planned Behavior**

1. Most people who are important to me think that I ___________ get screened for sexually transmitted infections

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<th>9</th>
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<td>should not</td>
<td>should</td>
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</table>

2. For me to get screened for sexually transmitted infections is

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<th>bad</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>good</th>
</tr>
</thead>
</table>

3. Whether or not I get screened for sexually transmitted infections is completely up to me

<table>
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<tr>
<th>disagree</th>
<th>agree</th>
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4. I plan to get screened for sexually transmitted infections within the next month.

<table>
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<tr>
<th>disagree</th>
<th>agree</th>
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5. Most people who are like me get screened for sexually transmitted infections on a semi-regular basis

<table>
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<tr>
<th>disagree</th>
<th>agree</th>
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INTENTION TO SCREEN

6. Screening for sexually transmitted infections is part of my preventative health plan
   false 1 2 3 4 5 6 7 true

7. For me, screening for sexually transmitted infections arouses fear and anxiety
   false 1 2 3 4 5 6 7 true

8. For me, screening for sexually transmitted infections is embarrassing
   false 1 2 3 4 5 6 7 true

9. There are no disadvantages to getting screened for sexually transmitted infections
   Disagree 1 2 3 4 5 6 7 Agree

10. Most people whose opinions I value would approve of my getting screened for sexually transmitted infections
    Disagree 1 2 3 4 5 6 7 agree

11. I intend to get screened for sexually transmitted infections in the next month
    Disagree 1 2 3 4 5 6 7 Agree

12. Generally speaking, I care about what my doctor thinks of the decisions I make
    Disagree 1 2 3 4 5 6 7 Agree

13. Generally speaking, I care about what my parents think of the decisions I make
    Disagree 1 2 3 4 5 6 7 Agree

Behavioral Intention

If you are interested in getting tested for STIs, please take this note and post it somewhere helpful to you!

Available testing centers:
INTENTION TO SCREEN

Eastern Michigan University
Snow Health Center, 2nd Floor
(734) 487-1122

Planned Parenthood Mid and South Michigan Ypsilanti Health Center
(734) 485-0144 or www.plannedparenthood.org.midsouthmi

Corner Health Center
47 N. Huron St.
Ypsilanti, Michigan 48197
(734) 484-3600

Sexual Survey
Instructions: Please read the following statements and record the number that is true for you over the past six month for each question on the blank. If you do not know for sure how many times a behavior took place, try to estimate the number as close as you can. Thinking about the average number of times the behavior happened per week or per month might make it easier to estimate an accurate number, especially if the behavior happened fairly regularly. If you’ve had multiple partners, try to think about how long you were with each partner, the number of sexual encounters you had with each, and try to get an accurate estimate of the total number of each behavior. If the question does not apply to you or you are never engaged in the behavior, put a “0” on the blank. Please do not leave items blank. Remember that in the following questions “sex” includes oral, anal, and vaginal sex and that “sexual behavior” includes passionate kissing, making out, fondling, petting, oral-to-anal stimulation, and hand-to-genital stimulation. Refer to the Glossary for any words you are not sure about. Please consider only the last six months when answering and please be honest.

In the past six months:

1. _____ How many partners have you engaged in sexual behavior with but no had sex with?
2. _____ How many times have you left a social event with someone you just met?
3. _____ How many times have you “hooked up with” but not had sex with someone you didn’t know or didn’t know well?
4. _____ How many times have you gone out to bars/parties/social events with the intent of “hooking up” and engaging in sexual behavior but not having sex with anyone?
5. _____ How many times have you gone out to bars/parties/social events with the intent of “hooking up” and having sex with someone?
6. _____ How many times have you had an unexpected and unanticipated sexual experience?
7. _____ How many times have you had a sexual encounter you engaged in willingly but later regretted?

For the next set of questions, follow the same directions as before. However, for questions 8-23, if you have never had sex (oral, anal, or vaginal), please put a “0” on each blank.
INTENTION TO SCREEN

8. _____ How many partners have you had sex with?
9. _____ How many times have you had vaginal intercourse without a latex or polyurethane condom? Note: Include times when you have used a lambskin or membrane condom.
10. _____ How many times have you had vaginal intercourse without protection against pregnancy?
11. _____ How many times have you given or received fellatio (oral sex on a man) without a condom?
12. _____ How many times have you given or received cunnilingus (oral sex on a woman) without a dental dam or “adequate protection” (please see definition of dental dam for what is considered adequate protection)?
13. _____ How many times have you had anal sex without a condom?
14. _____ How many times have you or your partner engaged in anal penetration by a hand (“fisting”) or other object without a latex glove or condom followed by unprotected anal sex?
15. _____ How many times have you given or received analingus (oral stimulation of the anal region, “rimming”) without a dental dam or “adequate protection” (please see definition of dental dam for what is considered adequate protection)?
16. _____ How many people have you had sex with that you know but are not involved in any sort of relationship with (i.e., “friends with benefits,” “fuck buddies”)?
17. _____ How many times have you had sex with someone you don’t know well or just met?
18. _____ How many times have you or your partner used alcohol or drugs before or during sex?
19. _____ How many times have you had sex with a new partner before discussing sexual history, IV drug use, disease status and other current sexual partners?
20. _____ How many times (that you know of) have you had sex with someone who has had many sexual partners?
21. _____ How many partners (that you know of) have you had sex with who had been sexually active before you were with them but had not been tested for STIs/HIV?
22. _____ How many partners have you had sex with that you didn’t trust?
23. _____ How many times (that you know of) have you had sex with someone who was also engaging in sex with others during the same time period?

Glossary

Condom: A male condom is a sheath (usually made of latex) that is placed on the outside of the penis and covers the entire shaft of the penis during sexual relations to help protect against pregnancy and STIs. A female condom is a soft flexible tube (usually made of polyurethane) that is inserted into the vagina before sex to protect against pregnancy and STIs. Note: Only latex & polyurethane condoms offer adequate protection against STIs.
**Cunnilingus**: Oral sex on a woman, using one’s mouth to stimulate a woman’s genitals (a.k.a. "eating a woman out", "going down on a woman")

**Dental dam (or "adequate protection")**: A thin piece of latex that can be placed between the mouth and the vagina during oral sex on a woman to help prevent STIs, or placed between the mouth and anal region during oral to anal sex (analingus) to prevent STIs and bacterial infections. Although purchased dental dams are the most reliable, they can also be self-made by cutting a large square from a latex condom (people often use flavored condoms for this) or by using a square of plastic wrap as long as there are no holes in the material and the covering adequately covers the genital region. These self-made dental dams are considered "adequate protection" in this study.

**Fellatio**: Oral sex on a man, using one’s mouth to stimulate a man’s penis (a.k.a. "blow job", "giving head")

**Hooking up**: Engaged in sexual behavior (such as making out/fondling) or sex with someone, usually outside of a relationship

**IV drugs**: Intravenous drugs that are injected into the body using a needle and a syringe, drugs that you can “shoot up” such as heroin.

**Oral Sex**: Mouth to genital stimulation, using one’s mouth to stimulate or touch the genitals of a man or a woman (a.k.a. fellatio, cunnilingus, "blow jobs", "going down on someone")

**Sex**: Includes oral, anal, and vaginal sex.

**Sexual behavior**: Includes passionate kissing, fondling, petting, oral-to-anal stimulation and hand-to-genital stimulation (includes "making out", "dry sex/humping", "fingering", analingus, "rimming" "handjobs")

**Sexual partner**: A person with whom you have had sex (oral, anal or vaginal) or engaged in sexual behavior with

**STI**: Stands for a sexually transmitted infection, a disease that can be given to someone through oral, genital and/or anal sex. Some STIs may also be gotten through oral to anal contact and hand to genital contact. STIs include herpes, trichomonas, chlamydia, syphilis, gonorrhea, vaginitis, genital warts, pubic lice, hepatitis B and HIV infection which leads to AIDS.

**Vaginal sex**: Sexual intercourse where a man’s penis penetrates a woman’s vagina, this is the only type of sex that can directly result in pregnancy. (Please note that rear-entry intercourse, such as "doggy-style" sex, is considered vaginal sex as long as the penis is penetrating the vagina and not the anal region.)
INTENTION TO SCREEN

Relationship Status and Commitment Scale

Relationship Status:

Single ___
In an open relationship ____
In a committed relationship _____
Other____

Commitment Level Items

1. I want our relationship to last for a very long time (please circle a number).
   0     1     2     3     4     5     6
   Do Not Agree  Somewhat  Agree
   At All       Agree

2. I am committed to maintaining my relationship with my partner.
   0     1     2     3     4     5     6
   Do Not Agree  Somewhat  Agree
   At All       Agree

3. I would not feel very upset if our relationship were to end in the near future.
   0     1     2     3     4     5     6
   Do Not Agree  Somewhat  Agree
   At All       Agree