Published in final edited form as:

J Clin Psychol. 2010 June ; 66(6): 611–626. doi:10.1002/jclp.20691.

Reason for Cautious Optimism? Two Studies Suggesting Reduced Stigma Against Suicide

Tracy K. Witte, M.S., April R. Smith, M.S., and Thomas E. Joiner Jr., Ph.D.
Florida State University

Abstract

We present data from two studies that aimed to investigate stigma against suicide. In Study 1, we employed Milgram et al.'s (1965) "lost letter" technique. We predicted that fewer letters addressed to a fictitious organization with the word "suicide" in its name would be returned than letters addressed to fictitious heart disease or diabetes organizations, presumably due to stigma. Contrary to expectation, there were no differences in the percentage of letters returned for each condition, despite power to detect small effects. In Study 2 we compared scores on the Suicide Opinion Questionnaire (SOQ; Domino, Gibson, Poling, & Westlake, 1980) from a study published in 1988 (Domino, MacGregor, & Hannah, 1988) to scores from a study conducted 19 years later. Results demonstrated reduced stigma toward suicide, with the belief that suicide is morally bad exhibiting the largest change.

Suicide is the 11th leading cause of death in the United States, and more people die by suicide than by HIV/AIDS or homicide (Kochanek, Murphy, Anderson, & Scott, 2004). Despite this, suicide research programs receive a fraction of the funding that research programs for other, sometimes less fatal diseases or conditions do (Curry, De, Ikeda, & Thacker, 2006). Specifically, in 2003 the Center for Disease Control's research budget for suicide was one-third of one percent, whereas the research budget for homicide was four times as much, and the research budget for HIV/AIDS was 50 times as much. Why is it that suicide research is literally paid so little attention? The dearth of funding for suicide research may in part be due to the stigma associated with suicide.

The stigma surrounding suicide is complex, and partially stems from the way it has been regarded by religion and the law. For centuries, suicide was considered a mortal sin by the Catholic Church. Historically, those who died by suicide were denied funeral rites, and those who survived an attempt were excommunicated (Alvarez, 1970). As a way of illustrating the condemnation placed upon those who died by suicide, in Dante's *Inferno*, suicide decedents were banished to the seventh circle of hell, a position below even that of murderers and heretics (Alighieri, 1971; Joiner, 2005). Today, many religions still consider suicide to be a sinful act, and clergy have been found to be more condemning of suicide than are physicians, social workers, or psychologists (Domino & Swain, 1985–86).

Suicide has also been harshly censured legally. During the 17th and 18th centuries suicide was considered to be a triple crime (murder, treason, and heresy; Farberow, 1975). Moreover, during this period, punishments for death by suicide included loss of property, violation of the deceased's body, and harsh restrictions regarding burial (Smith et al., 2008). Not only were those who died by suicide punished, their families often were as well (Stillion & Stillion, 1998–99). Though these harsh legal punishments no longer apply in the United

States, it was not until the late 20th century that suicide was decriminalized in every state (Berman, 1990).

Another source of suicide stigmatization results from misunderstandings about the causes of suicide. For example, many people erroneously believe that people who die by suicide are selfish or weak (Joiner, in press; Pompili, Girardi, Lester, & Tatarelli, 2007). Due to these and other misunderstandings about suicide, some people attempt to distance themselves from people and topics associated with suicide. Social distance is akin to stigmatization, and refers to the intimacy, indifference, or hostility one displays towards particular people or groups. A study conducted in the 1960s found that people desired more social distance from those who had attempted suicide than from ethnic and religious groups typically discriminated against at the time (Kalish, 1966). A replication of this same study 25 years later found that participants still put considerable distance between themselves and someone who had attempted suicide, though they were willing to put themselves slightly closer than were participants in the earlier study (Lester, 1992–1993).

The stigma associated with suicide is widespread, affecting suicide attempters, the loved ones of the deceased, and even those experiencing suicidal ideation or desire. A suicide attempt should register as a clear sign that the person who made the attempt is in need of help. Unfortunately, those who survive a suicide attempt often experience severe stigmatization; for example, they may be labeled as “attention-seekers” (Sudak, Maxim, & Carpenter, 2008). The family members of a person who has died by suicide have also been found to experience significantly greater perceived rejection, shame, and stigma than other bereaved groups (Sveen, & Walaby, 2007). For example, family members may be asked to lie about their loved one's cause of death in obituaries, or they may be told that their loved one is “going to hell” or that they have “suicide germs” (Ball, 2005). Moreover, due to the various misunderstandings about suicide, people experiencing suicidal ideation or desire may be reluctant to seek treatment (Pompili, et al., 2007). This reluctance may ultimately jeopardize their personal safety and mental health.

In order to decrease the widespread stigma surrounding suicide, as well as to prevent suicide, in recent years public health and education campaigns have taken root. For example, the current theme of the American Foundation for Suicide Prevention's youth campaign is: “Suicide Shouldn't Be a Secret.” This campaign includes televised public service announcements that aim to reach 88 million viewers nationwide (American Foundation for Suicide Prevention [AFSP], 2009). Other media efforts include educational specials on widely viewed shows, such as “The Dr. Phil Show” (e.g., “The Bridge Controversy,” Dr. Phil.com). There has also been a recent shift away from sensationalizing suicide in the media to providing accurate information about prevention (Ball, 2005). Other anti-stigma efforts include updating the suicide lexicon in order to remove connotations of sinfulness or wrongdoing. For example, suicide researchers and survivors generally use the term “died by suicide” as opposed to “committed suicide” (Ball, 2005).

There is some evidence that these efforts are helping to change attitudes about suicide. For example, at a recent National Suicide Prevention Lifeline meeting it was reported that, for the first time, 100 percent of suicide hotline phone counselors responded that they “very much disagreed” with the statement “Suicide is wrong” (T. E. Joiner, personal communication, April 20, 2009). Moreover, after the completion of a Cleveland area suicide prevention campaign (with the message, “Suicide is Preventable. Its Causes are Treatable.”), calls to a suicide hotline increased 29 percent (Oliver et al., 2008). Even more striking, calls to 1-800-273-TALK (a national suicide prevention hotline) increased 300 percent after the hotline was advertised on a Dr. Phil show (T. E. Joiner, personal communication, May 5, 2009). Furthermore, those exposed to Quebec's Suicide Prevention Week – which involved

newspaper, television, and radio advertisements – were found to have increased knowledge about suicide prevention (Daigle et al., 2006).

Although suicide stigmatization is a centuries-old, far-reaching and widespread problem, there is some preliminary evidence that attitudes towards suicide have recently begun to improve. Yet few studies have investigated changing attitudes towards suicide, and even fewer still have examined this issue since the earnest advent of suicide education campaigns over the past 20 years. Thus, the aim of the current studies was to empirically test whether contemporary attitudes towards suicide are improving through the use of both experimental and longitudinal methods.

Study 1

Stanley Milgram developed what has come to be known as the “lost letter” technique in 1964 (Blass, 2004). This technique involves “losing” a large sample of letters addressed to various people or organizations in an area of interest (but with an P.O. box address that, unbeknownst to anyone finding the letters, returns to the researchers). The guiding principle behind “lost letter” studies is that one can measure societal attitudes toward a particular organization, institution, or person based on the return rate of certain letters relative to the other lost letters. For example, in the first study utilizing this technique Milgram distributed 400 letters throughout New Haven, Connecticut (Milgram, Mann, & Harter, 1965). One hundred letters were addressed to each of the following: 1) Friends of the Communist Party, 2) Friends of the Nazi Party, 3) Medical Research Associates, and 4) Mr. Walter Carnap (a fictitious person). The letters were distributed equally throughout ten city districts, and they were placed in one of four different ways: on the street, near shops, in telephone booths, or under a car windshield wiper (with a note saying, “found near car”). Almost three-quarters of the letters addressed to the Medical Research Association and to Mr. Carnap were returned, whereas only 25 percent of those addressed to the Communist Party or Nazi Party were returned.

Milgram also used this technique to study societal attitudes not readily disclosed. For example, in an unpublished study conducted in 1964 examining attitudes towards presidential candidates, more pro-Johnson letters were returned than pro-Goldwater letters, and the return rate accurately predicted the outcome of the election (Blass, 2004). Milgram was also able to gauge taboo attitudes utilizing this technique. Specifically, Milgram found that Chinese people living in Hong Kong, Singapore, and Bangkok were more supportive of Taiwan than China, as significantly more pro-Taiwan letters were mailed back than pro-China letters (Blass, 2004). Another study conducted in California demonstrated that letters addressed to the “Gay Marriage Foundation” were significantly less likely to be returned than letters addressed to the “Blue Sky Foundation” (Waugh, Plake, & Rienzi, 2000).

Of particular relevance is a recent study (Bridges, Williamson, Thompson, & Windsor, 2001) that aimed to measure attitudes towards battered lesbians, battered heterosexual women, and battered men, as it was conducted in the same geographical location (i. e., the Florida panhandle) as the current study. Over 60 percent of the letters addressed to “Advocates of Battered and Abused Women” and “Advocates of Battered and Abused Men,” were returned, whereas only 38 percent of the letters addressed to “Advocates of Battered and Abused Lesbians” were returned.

The results of these and other “lost letter” studies have demonstrated that this technique not only has the ability to uncover stigmatizing attitudes, but that it also has the power to detect meaningful effects. Furthermore, this method has the notable advantage of being an unobtrusive measure of public attitudes – indeed, it is exceedingly unlikely that participants in these studies even know that their behavior is being measured by researchers. Thus, for

Study 1 this technique was used to measure contemporary attitudes about suicide in the Florida panhandle. Although attitudes towards suicide may be improving, given its longstanding historical stigmatization, we hypothesized that letters addressed to non-suicide related organizations would be more likely to be returned than letters addressed to a suicide-related organization.

Method

Participants—Our only outcome variable was the number of “lost letters” returned to us by anonymous participants, and as such, demographic information about our participants is unknown. Potential participants were self-selected and consisted of community members who came across the letters that had been dropped throughout the city of Tallahassee, Florida. We provide demographic information about the city as provided by the 2005–2007 American Community Survey (United States Census Bureau, 2005–2007). Given that we made an effort to distribute the letters evenly throughout the city, it is reasonable to assume that the demographics of our sample are similar to the demographics of Tallahassee in general. The American Community Survey also provides a comparison of Tallahassee demographics to those of the general U. S. population.

Tallahassee is a southeastern city of approximately 163,000 residents. In general, the population of Tallahassee is similar to the United States population in terms of gender characteristics (48% male versus 49% male). Tallahassee has a larger proportion of African Americans (35% versus 12%), fewer Hispanics/Latinos (5% versus 15%), younger median age (27 versus 36), a larger proportion of college graduates (46% versus 27%), and a lower median income than the general U. S. population (\$37,762 versus \$50,000).

Procedure—Our experimental procedure was similar to that described by Milgram et al. (1965) and was approved by the Florida State University Institutional Review Board. Specifically, we dropped 618 letters that were addressed and stamped (but not mailed) in different locations throughout the city. All envelopes were identical, with one key exception: the organization to which the letter was addressed. Two-hundred and six (33%) of the envelopes were addressed to the American Heart Disease Research Foundation, 206 (33%) were addressed to the American Diabetes Research Foundation, and 206 (33%) were addressed to the American Suicide Research Foundation. Underneath the organization name, all of the envelopes were addressed to a P.O. box that was actually rented by us, the researchers.

When participants found and mailed the lost letters, they were therefore returned to us, allowing us to count the number returned for each condition. All letters also had the same return address with the name Stanley Carnap - a tribute to Stanley Milgram and Walter Carnap, one of the addressees for the original Milgram et al. (1965) study. (Milgram had originally chosen the name Carnap as a tribute to Rudolph Carnap, a philosopher of science [Blass, 2004]). Should the passer-by open the envelope, there was a letter enclosed stating that the sender was interested in making a \$500 donation to the addressee. We did this to encourage potential participants to re-seal the envelope and mail it back should they happen to open the letter. At study's end, only one of the returned letters had obviously been opened and resealed (i.e., it had been removed from the original envelope, placed in a new envelope, and re-addressed); this letter was in the Diabetes condition.

The main premise behind this experimental design is that people would be less likely to help an organization toward which they hold stigmatized views; this would be manifested by a lower return rate of the letters for one organization over another. As stated above, we predicted that participants would be less likely to pick up and mail the letter addressed to the American Suicide Research Foundation than either of the other two organizations.

We divided the city of into four main quadrants, into which we dropped equal numbers of letters for each condition. We did this to increase the likelihood that members of the population were equally represented in our study. Letters were dropped in areas that were likely to have high amounts of foot traffic (e.g., sidewalks, parking lots). The most frequent areas into which letters were dropped were as follows: stand-alone stores (e.g., Target), doctor's offices, hospitals, office buildings, banks (25%); strip malls (17%), restaurants/bars (17%), residential areas/hotels (13%), university campuses (9%), and gas stations (7%). The remaining 12% were dropped in churches, parks, the airport, etc.

Results—Overall, 64% of the envelopes were returned to us. Typically, studies using this method have obtained overall return rates that range between 48% (Milgram, 1964) and 56% (Waugh et al., 2000). To our knowledge, our return rate is the highest to date among published studies using this method. Within one week of being dropped, 370 (94%) of the eventual 394 envelopes that we received back were returned. The remaining 6% trickled in over a period of one month after the initial drop. We continued to check the P.O. box for three more months after the initial drop and did not receive any additional letters after that point.

We calculated 95% confidence intervals around the proportions of letters returned for each condition, using the procedure described by Lane (2007). We applied the correction for continuity to adjust for the fact that the sampling distribution for proportions is not continuous. We also calculated effect sizes for the pairwise comparison of differences of proportion using Cohen's (1992) formula for h , which is the difference between the arcsine transformations of the proportions. Values of h between .20–.50 represent a small effect size, values between .50–.80 represent a medium effect size, and values larger than .80 represent a large effect size.

For the Heart Disease condition, 67% of the envelopes (95% CI = 60–74%) were returned; for the Diabetes condition, 64% of the envelopes (95% CI = 57–71%) were returned; and for the Suicide condition, 61% of the envelopes (95% CI = 54–68%) were returned. The confidence intervals for all conditions overlap with one another, indicating that there is not a statistically significant difference between any of the conditions.

We also conducted two-tailed Fisher's exact tests (Fisher, 1922) for the pairwise comparisons between each condition. According to our power analysis, using G*Power version 3.0.8 for Macintosh (Erdfelder, Faul, & Buchner, 1996), we had 85% power to detect a small effect size (i.e., $h = .15$) with our sample size according to Cohen (1992). None of the comparisons were significant: Heart Disease versus Suicide (Fisher's Exact Test = 1.51, $p = .22$, $df = 1$, $h = .06$), Diabetes versus Suicide (Fisher's Exact Test = 0.51, $p = .48$, $df = 1$, $h = .03$), Heart Disease versus Diabetes (Fisher's Exact Test = 0.27, $p = .61$, $df = 1$, $h = .03$). The effect sizes in all comparisons were very small to the point of being negligible. It appears that our lack of significant differences between the groups is due to the fact that differences between the groups were very small, not that we lacked power to detect meaningful differences.

Discussion

Contrary to what we had expected, participants seemed equally likely to return envelopes for each of the three conditions. These results are promising in that they indicate that, at least according to the outcome variable used in this study, stigma against suicide may be less severe than previously thought. As stated above, this study was sufficiently powered to detect meaningful differences should they have been present. To put things in perspective, the Bridges et al. (2001) study found an effect size of .25, and the Milgram et al. (1965) study found an effect size of .48 when comparing the return rates of envelopes addressed to

less stigmatized groups versus more stigmatized groups, whereas all of our effect sizes were less than .06.

It is possible that this method may not have been sensitive enough to pick up on subtle differences in attitudes toward suicide versus heart disease or diabetes. According to Milgram (1969), this technique is designed to detect differences in opinion that involve a great degree of emotional arousal. Although it may seem obvious that even the word “suicide” should elicit some degree of emotional arousal, perhaps the fact that this word was couched in the phrase “American Suicide Research Foundation” made it seem less emotional and more bureaucratic or institutional. Additionally, although people may still hold stigmatizing views toward individuals who are suicidal, perhaps this does not translate into holding stigmatizing views toward organizations designed to assist suicidal people. For example, people who returned the letters addressed to the American Foundation for Suicide Prevention may have been intending to exorcize the phenomenon of suicide in a superstitious way.

The above discussion indicates the main limitation of this study: our outcome variable was relatively crude. The return rate of envelopes does not provide detailed information regarding perceptions of suicide. We address this limitation in Study 2, which involved administering a detailed questionnaire about attitudes toward suicide. Furthermore, this limitation in the current study must be balanced with the fact that our study method allowed us to examine attitudes toward suicide in a very unobtrusive way that was not as vulnerable to demand characteristics as self-report measures often are. Additionally, our sample was an unselected community sample, thereby increasing the generalizability of our findings.

An additional limitation of the current study is that we only dropped the letters in one geographic location. Therefore, our results may not be completely generalizable to individuals who live in other geographic locations. As noted when describing the population of Tallahassee, there are important demographic differences between Tallahassee and the United States. Perhaps the most notable difference is the relatively large percentage of the population who hold bachelor's degrees or higher. Lau, Choi, Tsui, and Su (2007) found that people who have attained higher levels of education hold less stigmatizing views toward individuals living with HIV/AIDS -- the same could be true regarding stigma toward suicide. Therefore, in a geographic location with relatively fewer individuals who have achieved a bachelor's degree, we might have found a difference between our conditions. Additionally, the Tallahassee population is relatively younger than the United States population; if attitudes toward suicide are changing in the United States, this overrepresentation of a younger generation may have minimized differences between experimental conditions.

A related limitation of this study design is that we have no way of assessing demographic characteristics of the individuals who came across the dropped letters. Bridges and Thompson (2001) conducted a study in Pensacola, Florida in which they monitored the lost letters from a hidden location until they were mailed and observed how many people came within six feet of the letters and chose not to mail them as well as how many people picked up the letters and presumably mailed them. They found that sex, race, and estimated age of participants were not significantly associated with whether or not an individual chose to mail the lost letter. These results give us confidence that our results were not likely moderated by the demographic characteristics of our participants; in particular, the younger age of the Tallahassee population likely did not have a large impact on our results. Incidentally, the only variable that did moderate the likelihood of a letter being picked up in the Bridges and Thompson (2001) study was the amount of foot traffic near the letter. Areas with greater foot traffic (and higher population density) were associated with a lower likelihood of the

letter being picked up, presumably due to diffusion of responsibility (Lantane & Darley, 1970). The random placement of the letters in our three conditions guards against this variable unduly affecting our results.

In sum, although there are some aspects of Tallahassee's population that may serve to decrease stigma against suicide compared to the general United States population, the very small differences between the groups lead us to believe that our results would likely replicate in other geographic locations. The lost letters technique has been utilized to measure public attitudes regarding a variety of topics, demonstrating its validity. The fact that we did not find differences between conditions therefore provides reasonably convincing evidence that stigma against suicide may not be as widespread and extreme as we had originally anticipated (although see General Discussion for caveats).

Study 2

The null results of the previous study were somewhat surprising—though heartening—and suggest that attitudes towards suicide may be improving. However, although the results from the previous study can be viewed as promising, they provide only a general assessment of attitudes towards suicide (i.e., attitudes toward suicide are no more negative than those toward heart disease or diabetes). In order to replicate and extend these findings, in the second study we compared scores on the Suicide Opinion Questionnaire (SOQ; Domino, Gibson, Poling, & Westlake, 1980) from a study published in 1988 (Domino, MacGregor, & Hannah, 1988) to scores from a study conducted 19 years later.

The SOQ is a 100-item self-report questionnaire that was designed to measure attitudes towards suicide. Because this scale assesses for various types of attitudes about suicide (e.g., suicide violates religious codes, suicide reflects mental illness) the data this questionnaire provide will allow for a more fine-tuned examination of attitudes toward suicide than the previous study. Given the results of Study 1, it was hypothesized that if attitudes towards suicide are improving, this improvement should be demonstrated by less stigmatizing attitudes towards suicide as measured by the SOQ in 2007 as compared to 1988.

Method

Participants—Our sample consisted of data collected from undergraduates at Florida State University between March 2006 and April 2007 and published data collected from undergraduates at the University of Arizona (Domino et al., 1988). In order to ensure that the samples were comparable, we selectively recruited participants based upon the demographic characteristics of the University of Arizona sample. The University of Arizona sample was 88% Caucasian (no other data on race or ethnicity are available), 37% male, and 80% between the age of 18 and 21. The Florida State University sample was 87% Caucasian, 37% male, and 84% between the ages of 18 and 21. Both universities are large, public, four-year institutions, which indicates that our samples are likely comparable in terms of socioeconomic background. The overall student enrollment (including graduate students) at the University of Arizona in 1988 was 34,142 (University of Arizona, n.d.); the overall student enrollment at Florida State University during the school year 2006–2007 was 40,474 (Florida Board of Governors, 2007).

Procedure—As described in Domino et al. (1988), 248 college student volunteers at the University of Arizona were administered the SOQ as well as a measure assessing for demographic information. Domino et al. (1988) do not provide detailed information regarding participant recruitment efforts. The 135 Florida State University students completed the SOQ as part of a larger study, in order to fulfill course requirements for their

Introductory to Psychology Course. Participants signed up for the study online. No students who came to the laboratory to complete the study refused to complete the measures.

Suicide Opinion Questionnaire (SOQ)—The SOQ is a 100-item measure that consists of eight subscales derived using expert consensus as well as empirical tests for internal consistency (Domino et al., 1988). These subscales have been demonstrated to have superior psychometric properties compared to subscales derived using factor analytic techniques (Domino, Su, & Shen, 2000). The Mental Illness subscale is designed to assess the attitude that suicide is a reflection of mental illness (e. g., Most persons who attempt suicide are lonely and depressed; People who die by suicide are usually mentally ill). The Cry for Help subscale is related to the perception that suicide attempts are related to attention seeking rather than a genuine desire to die (e. g., Those people who attempt suicide are usually trying to get sympathy from others; Most people who try to kill themselves don't really want to die). The Right to Die subscale assesses attitudes toward suicide among the physically ill; specifically, this scale measures the belief that infirm individuals should have the right to take their own lives (e. g., People with incurable diseases should be allowed to die by suicide in a dignified manner; Suicide is an acceptable means to end an incurable illness). The Religion subscale assesses for the belief that suicidal behavior goes against religious teachings and that people who attempt suicide are less religious than those who do not attempt suicide (e. g., Most people who die by suicide do not believe in an afterlife; Suicide goes against the laws of God and/or nature).

The Impulsivity subscale reflects the belief that suicides are primarily impulsive and unpredictable in nature (e.g., Suicide happens without warning; Usually, relatives of a suicide victim had no idea of what was about to happen). The Normality subscale measures the belief that suicidal behavior is normal and understandable under some circumstances (e.g., Almost everyone has at one time or another thought about suicide; Potentially, every one of us can be a suicide victim). The Aggression subscale assesses for the belief that suicide is a reflection of aggression and anger (e.g., Suicide is clear evidence that man has a basically aggressive and destructive nature; Suicide attempters are typically trying to get even with someone). The Moral Evil subscale reflects the belief that suicide is morally bad (e.g., I would feel ashamed if a member of my family died by suicide; People who die by suicide should not be buried in the same cemetery as those who die naturally).

Across eight separate samples, the test-retest reliability of these subscales ranges from 0.78–0.91 (Domino, 1996), demonstrating that the attitudes reflected by the scales are relatively stable over time. Comparison of mean scores between different cultural groups and religious backgrounds reveals differences in the expected direction (Domino, 2005). For example, Japanese individuals, who come from a culture in which suicide is viewed as an acceptable act of self-sacrifice in some situations (Young, 2002), score higher than American individuals on the Right to Die subscale (Domino & Takahashi, 1991). Similarly, individuals who report being more religious score higher on the Moral Evil subscale than those who are less religious (Domino & Miller, 1992).

Results

In order to compare the samples, we utilized t-tests to compare mean scores on the subscales of the SOQ, with the 1988 dataset and the current dataset entered as independent groups. We also calculated effect sizes for the differences in mean scores, using Cohen's *d* (Cohen, 1992). The results of these analyses can be found in Table 1. In some respects, there was little change over the past 20 years regarding attitudes toward suicide. Specifically, the 2007 sample did not differ from the 1988 sample on the Mental Illness ($t = 0.19$, $df = 381$, $p = .85$, $d = 0.02$, small effect size), Impulsivity ($t = 1.75$, $df = 381$, $p = .08$, $d = 0.19$, small effect

size), and Aggression ($t = 1.06$, $df = 381$, $p = .29$, $d = 0.11$, small effect size) subscales, indicating that there has not been a change in the beliefs that suicidal people tend to be mentally ill, suicide attempts can occur without warning, and suicide attempts are a reflection of anger and aggression.

However, the 2007 sample had significantly higher scores than the 1988 sample on the Cry for Help subscale ($t = 4.56$, $df = 381$, $p < .001$, $d = -0.49$, small effect size), indicating that they were more likely to believe that suicide attempters do not necessarily intend to die or that their attempts are related to attention seeking. The 2007 sample also had significantly higher scores than the 1988 sample on the Right to Die subscale ($t = 6.38$, $df = 381$, $p < .001$, $d = -0.68$, medium effect size), indicating that they were more likely to believe that individuals with physical illness should have the right to take their own lives.

Perhaps most relevant to our discussion of stigma were differences on the Normality, Religion, and Moral Evil subscales. The 2007 sample had significantly higher scores on the Normality subscale ($t = 2.88$, $df = 381$, $p < .01$, $d = -0.31$, small effect size), indicating that they were more likely to believe that suicide could impact anyone in some circumstances. The 2007 sample had significantly lower scores than the 1988 sample on the Religion ($t = 4.3$, $df = 381$, $p < .001$, $d = 0.46$, small effect size) and Moral Evil ($t = 7.57$, $df = 381$, $p < .001$, $d = 0.81$, large effect size) subscales; in both cases, the 2007 sample was significantly less likely than the 1988 sample to believe that suicide is a crime against God or nature and that it is morally wrong. It is notable that the effect size of the difference in means for the Moral Evil subscale was the largest effect size in our study.

Discussion

In general, the results of Study 2 demonstrate that some positive changes have been made over the last two decades regarding attitudes toward suicide among college students. In particular, participants who completed the questionnaire recently were substantially less likely to view suicide as a morally evil act or as an act that goes against God and nature. Additionally, the 2007 participants were significantly more likely than the 1988 participants to believe that suicidal thoughts and behavior could affect anyone. This is reason for some optimism. In just two decades, we have seen decreases in stigma toward suicide and increases in the belief that suicide is something that could potentially touch all of our lives.

There is still room for improvement, however. For example, the 2007 sample was more likely than the 1988 sample to believe that most people who attempt suicide do not really want to die and may be engaging in attention-seeking behavior. In some respects this view occasionally may be accurate, as not all suicide attempts include serious intent to die. However, this viewpoint can be dangerous insofar as genuine suicidal behavior may not be taken seriously – this could result in lethal consequences. Furthermore, even self-injurious behavior that is completely absent of intent (i. e., non-suicidal self-injury) is a predictor of subsequent suicide attempts (Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006) and death by suicide (Cavanagh, Owens, & Johnstone, 1999). Thus, it is important for this type of behavior to be viewed with the concern and compassion that it deserves in order to prevent future, more lethal suicidal behavior.

There was also a notable change in attitudes toward suicide among the physically infirm. This change in attitude coincides with the legalization of physician assisted suicide in Oregon (and more recently in Washington state) and the dramatic increase in media coverage of physician assisted suicide starting in 1990 (Glick & Hutchinson, 1999). For example, in a large, representative sample of physicians and the general public, Bachman et al. (1996) found that 56% of physicians and 66% of the general public believed that physician assisted suicide should be legal. Although some view physician assisted suicide in

the face of a terminal physical illness to be an issue distinct from suicidal behavior among the mentally ill, there is reason to believe that this distinction may not be fully justified. For example, there is evidence that among terminally ill patients who desire death, there is an elevated rate of treatable mental illness, indicating that desire for death in this population is not a completely distinct issue from desire for death among the mentally ill (Brown, Henteleff, Barakat, & Rowe, 1986). Although this issue is beyond the scope of the current manuscript, suffice it to say that attitudes toward physician assisted suicide have become more permissive in the past several decades, as our data can attest. This does not at all indicate, however, that our participants believe that suicidal individuals should be given unfettered access to lethal means.

Despite their promise, our results should be viewed with some degree of caution. First, we were only able to measure attitudes of undergraduates, not the general population. Therefore, it may be the case that attitudes toward suicide have not changed to the same degree among community members as they have among college students. Although we acknowledge this limitation, we believe that our results generalize at least somewhat for the following reasons. First, as we have already discussed, college students have not been the only targets of efforts toward educating the public about suicide. Second, our results from Study 1 provide support for the notion that among community members, stigma against suicide is no greater than stigma against diabetes or heart disease. We thus feel fairly confident that future studies examining changes in attitudes toward suicide in the general population will replicate our results.

Another limitation is that our undergraduate samples may not be directly comparable, as the respondents from the 1988 sample resided in the southwest, whereas those in the 2007 sample resided in the southeast. Indeed, there are regional differences in attitudes toward suicide. However, southeastern individuals tend to hold less permissive attitudes toward suicide than individuals from other regions (Sawyer & Sobal, 1987). Thus, if anything, these regional differences would have masked our results. The fact that we found less stigmatizing attitudes toward suicide among individuals residing in the southeast compared to those in the southwest lends support to the notion that it is the passage of time (and corresponding public education efforts) that is related to improved attitudes toward suicide. Furthermore, we made a concentrated effort to ensure that our samples were comparable with regard to demographic (i. e., race, gender, age) variables, which provides further assurance that our samples were relatively commensurate. There are additional reasons to believe that the samples are comparable. For example, the states in which the participants reside are similarly diverse, with approximately 59% of Arizona's population being non-Hispanic Caucasian, and 60% of Florida's population being non-Hispanic Caucasian (United States Census Bureau, n.d.). Both states also have a similar percentage of individuals holding a bachelor's degree or higher (Arizona = 24%; Florida = 22%) and have similar median household incomes (Arizona = \$49,923; Florida = \$47,804). Both states also have similar political leanings. Although Arizonans tend to be more conservative than Floridians regarding economic issues, more relevant to our examination of stigma against suicide is the fact that citizens of both states are on the conservative side of moderate regarding social issues (Gelman, 2008).

Despite these limitations, our data provide reason to be somewhat optimistic regarding public attitudes toward suicide. In particular, the belief that suicide is morally evil has appeared to change the most over the past two decades. It is our hope that attitudes will continue to improve in the future as public campaigns continue to provide education about the need for compassion toward suicide decedents and their loved ones.

General Discussion

Through the use of complementary research designs, the current studies have provided converging evidence that attitudes toward suicide may be improving in the United States. In Study 1, we used an experimental design in an unselected sample with a behavioral variable as the primary outcome. Our results demonstrated that attitudes toward suicide are no more stigmatizing than attitudes toward heart disease or diabetes. In Study 2, we used a self-report measure to compare current attitudes toward suicide to those approximately 20 years ago. This more fine-tuned assessment of attitudes revealed that the largest improvement in the past two decades is in the belief that suicide is immoral – the difference in attitudes between our two samples represented a large effect size.

Despite the strengths of the current studies, one major limitation remains in that the current studies do not assess actual behavior toward suicidal individuals. It is possible that although expressed stigma against suicide on an intellectual or hypothetical level has been reduced in the past 20 years, people may still take steps to socially distance themselves from suicidal people. However, there is some reason to believe that social distancing for suicide has improved in recent years as well. A study by Van Orden et al. (2006), which also utilized Florida State University undergraduates as participants, found mean scores on an item stating *I would not befriend someone who was suicidal* tended toward the response option “not at all true” (i.e., mean of approximately 6 on a 1–7 scale ranging from “very true” to “not at all true”). The results of Van Orden et al. (2006) demonstrate improvement in social distancing toward suicidal individuals compared to Lester (1993), which in turn demonstrated an improvement compared to Kalish (1966). Additionally, a recent study by Paukert and Pettit (2007) randomly assigned college students to read a vignette describing a depressed individual who either had or had not attempted suicide. Participants in the suicide attempter condition endorsed less social distancing than those in the non-attempter condition, perhaps indicating some degree of sympathy and compassion toward suicide attempters. Thus, the results of studies of social distancing toward suicide converge with our own data demonstrating general improvements in attitudes toward suicidal individuals.

Although we advocate for increased understanding of and compassion for suicidal people, and decreased stigmatization of suicidal behavior, we also advocate for a healthy respect for and even fear of suicidal behavior. Why? Because it kills, maims, and agonizes. Fear and stigma need not go hand in glove, as examples of things that are rightly feared but are not stigmatized show (e.g., natural disasters like earthquakes and hurricanes – we even give hurricanes regular and sometimes charming names; physical illnesses like cancer; and, more arguably, weapons, ranging all the way to the nuclear).

Our findings and conclusions, though somewhat hopeful, are by no means reason for complacency. Any suicide attempter, family member of an attempter or decedent, clinician working with suicidal patients, suicide prevention advocate, or researcher studying suicide, has a ready store of personal experience attesting to the fact that we have a long way to go regarding public views of suicide. As recently as 50 years ago, cancer was a highly stigmatized condition. This fact surprises many – a testament to how far we have come regarding public views on cancer. Ours and others' findings suggest not only that similar progress can be made regarding another highly stigmatized condition, suicidal behavior, but that such progress may have already begun.

In sum, we believe that although our results should be regarded with some degree of caution, they may be indicative of changing attitudes toward suicide. These improved attitudes may have a positive impact on the amount of public dollars allocated toward suicide prevention. Minolu and Andres (2006) examined the percentage of public health dollars allocated to

suicide prevention for each state and found a significant, negative association between funding level and number of suicide deaths. These findings demonstrate that garnering political will toward suicide prevention is no small matter – it can translate into actual lives saved. It is our fervent hope that as public health campaigns designed to reduce stigma against suicide continue to be successful, so too will efforts to allocate public resources to this vital public health crisis.

Acknowledgments

This research was supported, in part, by a grant from the National Institute of Mental Health (NIMH) to Tracy K. Witte and Thomas E. Joiner (F31 MH077386) and a grant from NIMH to April R. Smith and Thomas E. Joiner (F31 MH083382). We would also like to thank Andrew Schmidt for his enthusiastic help with various aspects of the project, including data management and formatting.

References

- Alighieri, D. *The Inferno*. Trans. John Ciardi.. New American Library; New York: 1971.
- American Foundation for Suicide Prevention. Suicide prevention foundation. 2009. Retrieved May 15, 2009, from http://www.afsp.org/index.cfm?page_id=056954D8-0D84-0DD0-4984862095B0D073
- Alvarez, A. *The savage god: A study of suicide*. Random House; New York: 1970.
- Bachman JG, Alcer KH, Doukas DJ, Lichtenstein RL, Corning AD, Brody H. Attitudes of Michigan physicians and the public toward legalizing physician-assisted suicide and voluntary euthanasia. *New England Journal of Medicine*. 1996; 334:303–309. [PubMed: 8532027]
- Ball PB. Stigma and suicide: Historical, real, or perceived? *Visions Journal*. 2005; 2:21–22.
- Berman, AL. Malpractice. In: Berman, AL., editor. *Suicide Prevention: Case Consultations*. 1990. p. 132-155.
- Blass, T. *The man who shocked the world: The life and legacy of Stanley Milgram*. Basic Books; New York, NY: 2004.
- Bridges FS, Thompson PC. Y2K affiliation, immediate pedestrian density, and helping responses to lost letters. *Psychological Reports*. 2001; 88:1091–1095. [PubMed: 11597057]
- Bridges FS, Williamson CB, Thompson PC, Windsor MA. Lost letter technique: Returned responses to battered and abused women, men, and lesbians. *North American Journal of Psychology*. 2001; 3:263–276.
- Brown JH, Henteleff P, Barakat S, Rowe CJ. Is it normal for terminally ill patients to desire death? *American Journal of Psychiatry*. 1986; 143:208–211. [PubMed: 3946656]
- Cavanagh JTO, Owens DGC, Johnstone EC. Suicide and undetermined death in southeast Scotland: A case-control study using the psychological autopsy method. *Psychological Medicine*. 1999; 28:1141–1149. [PubMed: 10576306]
- Cohen J. A power primer. *Psychological Bulletin*. 1992; 112:155–159. [PubMed: 19565683]
- Curry CW, De AK, Ikeda RM, Thacker SB. Health burden and funding at the centers for disease control and prevention. *American Journal of Preventive Medicine*. 2006; 30:269–276. [PubMed: 16476645]
- Daigle M, Beausoleil L, Brisoux J, Raymond S, Charbonneau L, Desaulniers J. Reaching suicidal people with media campaigns. *Crisis*. 2006; 27:172–180. [PubMed: 17219749]
- Domino G. Test-retest reliability of the Suicide Opinion Questionnaire. *Psychological Reports*. 1996; 78:1–2.
- Domino G, Miller K. Religiosity and attitudes toward suicide. *Omega*. 1992; 25:271–282.
- Domino G. Cross-cultural attitudes towards suicide: The SOQ and a personal odyssey. *Archives of Suicide Research*. 2005; 9:107–122. [PubMed: 16020155]
- Domino G, Gibson L, Poling S, Westlake L. Students' attitudes towards suicide. *Social Psychiatry*. 1980; 15:127–130.
- Domino G, MacGregor JC, Hannah MT. Collegiate attitudes toward suicide: New England and United States. *OMEGA*. 1988; 19:351–364.

- Domino G, Su S, Shen D. Cross-cultural investigation of a new set of scales for the Suicide Opinion Questionnaire. *Omega: Journal of Death and Dying*. 2000; 41:307–321.
- Domino G, Swain B. Recognition of suicide lethality and attitudes toward suicide in mental health professionals. *Omega: Journal of Death and Dying*. 1985–86; 16:301–308.
- Domino G, Takahashi Y. Attitudes toward suicide in Japanese and American medical students. *Suicide and Life Threatening Behavior*. 1991; 21:345–359. [PubMed: 1799016]
- Erdfelder E, Faul F, Buchner A. GPOWER: A general power analysis program. *Behavior research Methods, Instruments, & Computers*. 1996; 28:1–11.
- Farberow, NL., editor. *Suicide in different cultures*. University Park Press; Baltimore, MD: 1975.
- Fisher RA. On the interpretation of χ^2 from contingency tables, and the calculation of P. *Journal of the Royal Statistical Society*. 1922; 85:87–94.
- Florida Board of Governors. SUS Headcount Enrollment, 1906–Present. 2007. Retrieved on August 6, 2009, from <http://www.flbog.org/resources/quickfacts/>
- Gelman, A. Ranking States by the Liberalism/Conservatism of Their Voters. 2008. Retrieved on August 6, 2009, from http://www.stat.columbia.edu/~cook/movabletype/archives/2008/06/ranking_states.html
- Glick HR, Hutchinson A. The rising agenda of physician-assisted suicide: Explaining the growth and content of morality policy. *Policy Studies Journal*. 1999; 27:750–765. [PubMed: 16211768]
- Joiner, TE. *Why people die by suicide*. Harvard University Press; Cambridge, MA: 2005.
- Joiner, TE. *Myths about suicide*. Harvard University Press; Cambridge, MA: in press
- Kalish RA. Social distance and dying. *Community Mental Health Journal*. 1966; 2:152–155.
- Kochanek, KD.; Murphy, SL.; Anderson, RN.; Scott, C. Deaths: Final Data for 2002. Vol. vol. 53. National Center for Health Statistics; Hyattsville, Maryland: 2004. National Vital Statistics Reports
- Lane, D. Confidence Interval for a Proportion. 2007. Retrieved on May 12, 2009, from <http://davidmlane.com/hyperstat/B9168.html>
- Lantane B, Darley JM. *The Unresponsive Bystander: Why Doesn't He Help?*. 1970 Appleton-Century-Crofts.
- Lau JTF, Choi KC, Tsui HY, Su X. Associations between stigmatization toward HIV-related vulnerable groups and similar attitudes toward people living with HIV/AIDS: Branches of the same tree? *AIDS Care*. 2007; 19:1230–1240. [PubMed: 18071967]
- Lester D. The stigma against dying and suicidal patients: A replication of Richard Kalish's study twenty-five years later. *Omega: Journal of Death and Dying*. 1992–93; 26:71–75.
- Milgram S, Mann L, Harter S. The lost-letter technique: A tool of social research. *The Public Opinion Quarterly*. 1965; 29:437–438.
- Milgram S. Comment on 'A failure to validate the lost letter technique.'. *Public Opinion Quarterly*. 1969; 33:263–264.
- Minolu C, Andres AR. The effect of public spending on suicide: Evidence from U. S. state data. *Journal of Socio-Economic*. 2006; 37:237–261.
- Nock MK, Joiner TE Jr, Gordon KH, Lloyd-Richardson E, Prinstein MJ. Non-suicidal self-injury among adolescents: Diagnostic correlates and relation to suicide attempts. *Psychiatry Research*. 2006; 144:65–72. [PubMed: 16887199]
- Oliver RJ, Spilsbury JC, Osiecki SS, Denihan WM, Zureick JL, Friedman S. Brief report: Preliminary results of a suicide awareness mass media campaign in Cuyahoga County, Ohio. *Suicide and Life Threatening Behavior*. 2008; 38:245–249. [PubMed: 18444781]
- Paukert AL, Pettit JW. Interpersonal reactions to suicide attempt: The role of respondent causal attributions. *Suicide and Life-Threatening Behavior*. 2007; 37:641–647. [PubMed: 18275370]
- Pompili, M.; Girardi, P.; Lester, D.; Tatarelli, R. Stigma and suicide risk. In: Tatarelli, R.; Pompili, M.; Girardi, P., editors. *Suicide in schizophrenia*. Nova Biomedical Books; Hauppauge, NY: 2007. p. 329–336.
- Sawyer D, Sobal J. Public attitudes toward suicide: Demographic and ideological correlates. *Public Opinion Quarterly*. 1987; 51:92–101.

- Smith AR, Witte TK, Teale NE, King SK, Bender TW, Joiner TE. Revisiting impulsivity in suicide: Implications for civil liability of third parties. *Behavioral Sciences and the Law*. 2008; 26:779–797. [PubMed: 19039790]
- Stillion JM, Stillion BD. Attitudes toward suicide: Past, present and future. *Omega: Journal of Death and Dying*. 1998–1999; 38:77–97.
- Sudak H, Maxim K, Carpenter M. Suicide and stigma: A review of the literature and personal reflections. *Academic Psychiatry*. 2008; 32:136–142. [PubMed: 18349334]
- Sveen C, Walby FA. Suicide survivors' mental health and grief reactions: A systematic review of controlled studies. *Suicide and Life-Threatening Behavior*. 2008; 38:13–29. [PubMed: 18355105]
- United States Census Bureau. State and County Quick Facts. n.d.Retrieved on August 6, 2009, from <http://quickfacts.census.gov/qfd/index.html>
- United States Census Bureau. 2005–2007 American Community Survey 3-year Estimates for XXXXXXXX, Florida. 2005–2007. Retrieved on May 4, 2009, from http://factfinder.census.gov/servlet/ACSSAFFacts?_event=&geo_id=16000US1270600&_geoContext=01000US%7C04000US12%7C16000US1270600&_street=&_county=tallahassee&_cityTo wn=tallahassee&_state=04000US12&_zip=&_lang=en&_sse=on&ActiveGeoDiv=&_useEV=&_pct=fp&pgsl=160&_submenuId=factsheet_1&ds_name=DEC_2000_SAFF&_ci_nbr=null&q_r_name=null®=null%3Anull&_keyword=&_industry=
- University of Arizona. The University of Arizona's Enrollment History. n.d.Retrieved on July 26, 2009, from http://oirps.arizona.edu/files/Student_Demo/enrollment_old_current.pdf
- Van Orden KA, Joiner TE, Holler D, Rudd MD, Mandrusiak M, Silverman MM. A test of the effectiveness of a list of suicide warning signs for the public. *Suicide and Life Threatening Behavior*. 2006; 36:272–287. [PubMed: 16805655]
- Waugh IM, Plake EV, Rienzi BM. Assessing attitudes toward gay marriage among selected Christian groups using the lost-letter technique. *Psychological Reports*. 2000; 86:251–218.
- Young J. Morals, suicide, and psychiatry: A view from Japan. *Bioethics*. 2002; 16:412–424. [PubMed: 12472089]

Table 1

Group comparisons for Study 2

Subscale	Representative Item	1988 Sample (N = 248) Mean (SD)	2007 Sample (N = 135) Mean (SD)	t (df = 381)	p	Cohen's d
Mental Illness	<i>Most persons who attempt suicide are lonely and depressed</i>	34.9 (5.1)	34.8 (4.8)	0.19	0.85	0.02
Cry for Help	<i>Most people who try to kill themselves don't really want to die</i>	31.6 (4.2)	33.6 (3.9)	4.56	<.001	−0.49
Right to Die	<i>Suicide is an acceptable means to end an incurable illness</i>	26.8 (4.8)	30.1 (4.9)	6.38	<.001	−0.68
Religion	<i>Suicide goes against the laws of God and/or nature</i>	23.3 (4.7)	21.2 (4.3)	4.3	<.001	0.46
Impulsivity	<i>Suicide happens without warning</i>	21.6 (2.8)	21.1 (2.4)	1.75	0.08	0.19
Normality	<i>Potentially, every one of us can be a suicide victim</i>	23.8 (3.9)	25 (3.9)	2.88	<.01	−0.31
Aggression	<i>Suicide is clear evidence that man has a basically aggressive and destructive nature</i>	18.4 (3.7)	18.0 (3.2)	1.06	0.29	0.11
Moral Evil	<i>I would feel ashamed if a member of my family died by suicide</i>	14.6 (3.0)	12.2 (2.9)	7.57	<.001	0.81

Notes. Subscales in bold are those with significant differences between the samples. Higher scores indicate stronger agreement with the attitudes reflected by the subscale.