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Manner of Death and Willingness to Nullify in a Euthanasia Case

A Thesis

by

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Submitted in partial fulfillment of the requirements for the degree of Master of Science in

Experimental Psychology

Department of Psychology

College of Liberal Arts

Rochester Institute of Technology

Rochester, NY

July 21, 2017

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Acknowledgements

I would like to thank my thesis advisor, Dr. John Edlund, and my committee members, Dr. Jason Scott and Dr. Brian Barry, for their continued feedback, support, and suggestions throughout this process. I would also like to thank Dr. Marc Roelands and Dr. Joachim Cohen from Vrije University in Brussels, Belgium for providing the Attitudes Toward Euthanasia measure used in this thesis. Finally, I would like to thank my friends and family who have supported me throughout this endeavor.

Table of Contents

Acknowledgements	3
Abstract	8
Manner of Death and Willingness to Nullify in a Euthanasia Case	9
Withholding Care	9
Euthanasia	9
Acceptability of Euthanasia	11
Juries	12
Juror Stereotypes	14
Jury Nullification	16
Manner of Death	19
Study 1	22
Method	22
Participants	22
Materials	23
Design and Procedure	26
Results	26
Discussion	28
Study 2	29
Method	30
Design	30
Materials	30
Procedure	31
Results	31
Sentence	32
Verdict	34
Exploratory Analyses	34
Discussion	35
General Discussion	36
References	41
Tables	50-51

Figures.....	52-60
Appendix A – Study 1 Euthanasia Methods	61
Appendix B – Euthanasia Questionnaire Items	63
Appendix C – Right-Wing Authoritarianism Scale	66
Appendix D – Religiosity Measure.....	68
Appendix E – Demographic Survey	69
Appendix F – Informed Consent Document.....	70
Appendix G – Debriefing Form.....	72
Appendix H – Study 2 Case Vignette and Jury Instructions	73
Appendix I – Study 2 Manipulation Check and Questionnaire Items	76

List of Tables

1	Participant Demographics from Study 1 and Study 2.....	50
2	Mean and Standard Deviations of Each Method on Levels of Brutality, Mercy, and Pain...	51

List of Figures

1	Mean sentences for perpetrator separated by instructions in lethal injection	52
2	Mean sentences for perpetrator separated by instructions in bag smother conditions	53
3	Mean sentences for perpetrator separated by instructions in head smash conditions	54
4	Regression line for sentence based on authoritarianism and religiosity	55
5	Regression lines for sentence based on the moral and pragmatic factors of the Euthanasia Attitudes Measure	56
6	Regression line for sentence based on the Attitudes Toward Euthanasia measure	57
7	Frequencies of guilty/not guilty verdicts for each euthanasia method	58
8	Frequencies of guilty/not guilty verdicts for each perpetrator	59
9	Frequencies of guilty/not guilty verdicts for standard and nullification instructions	60

Abstract

Jurors are subject to many biases that hinder their ability to make objective decisions and nullification may occur when the jury believes the law is unfair or immoral. In a case involving euthanasia, a defendant may not be viewed as having committed a crime if it was done out of mercy and a jury may be more likely to choose to nullify as a result. However, nullification can encourage jurors to make decisions based on their attitudes and subjective interpretations of events. One unexplored potential influence on euthanasia attitudes and the decision to nullify may be the manner of death. It is also unknown how the public views euthanasia when it is performed by a physician compared to a family member or friend. Two studies were performed to fill these gaps. First, opinions of and reactions to 17 different manners of death in euthanasia cases were examined in a sample of the general public. This study found varying ratings of the 17 euthanasia methods, and the methods of “lethal injection”, “bag smother”, and “head smash” were selected for further examination in Study 2. In the second study, participants from the general public acted as mock jurors in a euthanasia case that varies by manner of death, perpetrator, and presence of nullification instructions. The results of Study 2 revealed significant effects of method and perpetrator on sentence, with a case involving a wife and lethal injection receiving the lowest sentences. It was found that jurors were most likely to nullify in a case that provided nullification instructions and involved a wife using lethal injection for euthanasia. This finding suggests that different circumstances of a euthanasia case will affect jurors’ propensity to focus on personal sympathies and interpretations. Limitations and future directions are discussed.

Keywords: jury decision-making, jury nullification, euthanasia, manner of death

Manner of Death and Willingness to Nullify in a Euthanasia Case

Euthanasia in basic terms refers to “the intentional termination of a patient’s life by someone other than the patient at the patient’s own request” (Shekar & Goel, 2012, p. 628). Rulings in euthanasia cases vary on a case-by-case basis, but most acts of euthanasia require the explicit approval or request of a patient to die (e.g., *Cruzan v. Director, Missouri Dept. of Health*, 1990). A distinction should be made, however, between withholding care and euthanasia, which differ in their method and legality.

Withholding Care

Withholding care refers to a withdrawal of medical treatment with the intention of letting the patient’s underlying disease cause a natural death (Christakis & Asch, 1995). The intention of a natural death is what distinguishes withholding care from euthanasia, which involves a deliberate act to directly cause death (e.g., giving a lethal injection). Withholding care is legal in the United States and most other countries and can be made based on exhaustion of interventions and a patient’s inability to respond to treatments (Efstathiou & Walker, 2014). However, withdrawal of care generally requires voluntary consent of the patient or his/her caregiver and is enacted with the counsel of a physician. One especially influential case in decisions to withhold care comes from that of Karen Quinlan, a young woman who was in a vegetative state after taking a dose of diazepam and alcohol (*In re Quinlan*, 1976). Her parents requested she be removed from her ventilator but were initially denied. However, the decision was eventually overturned due to Quinlan’s lack of recovery and inability to make decisions.

Euthanasia

Euthanasia refers to deliberately causing death and entails the use of lethal substances or forces given directly to the patient (Taraska, 2003). Euthanasia, even when performed at the

request of a patient, is illegal in most of the United States, with the exceptions of California, Oregon, Vermont, and Washington. The term “physician-assisted suicide” has some overlap with the description of euthanasia. At a patient’s request, physicians provide the knowledge and/or means for ending one’s own life (Csikai, 1999). Like euthanasia, physician-assisted suicide is illegal in most states, with the exceptions of California, Colorado Montana, Oregon, Vermont, Washington, and Washington DC.

Outside of the United States, euthanasia is illegal in Australia, China, India, New Zealand, and the United Kingdom, among others. The only countries in which euthanasia is completely legal include Belgium, Colombia, Luxembourg, and the Netherlands. Euthanasia is also legal in Canada, but only in the form of what the country terms “physician-assisted dying”. By definition, Canadian law permits physician-assisted dying for terminally ill patients whose deaths are “reasonably foreseeable” (Wells, 2016). In Japan, there are no laws that explicitly allow or forbid euthanasia, but the country does have “death with dignity” laws that affect end-of-life care (Kai, 2010).

Euthanasia may also be referred to as “mercy killing”, and some family members choose to commit this act themselves, without going through a physician. Typically such cases occur among older married couples and are usually committed by the husband, with the justifications of the spouse’s poor health and a compassionate relief of suffering (Canetto & Hollenshead, 2000). Although this type of euthanasia is illegal and considered murder, offenders may not necessarily be convicted. This outcome can best be seen in the case of brothers George and Lester Zygmanski (Maguire, 1974). After a motorcycle accident, George was left paralyzed from the neck down and asked his brother Lester to end his suffering. Lester agreed, and shot George in the face with a shotgun while he was still in the hospital. Although Lester died 27 hours later,

and George was initially charged with first-degree murder, a jury acquitted him on grounds on temporary insanity. The judge and jury argued that the trauma of George's ordeal, as well as his love for his brother, rendered him incapable of making a rational decision and that he should not be tried for murder.

Acceptability of Euthanasia

Attitudes on the ethicality of euthanasia vary and can be affected by individual factors. Religiosity is negatively associated with acceptance rates of euthanasia, with more religious individuals being more opposed to it (Bevacqua & Kurpius, 2013). Different denominations of Christianity have shown different rates of acceptance, with Protestants being more accepting than Catholics (Verbakel & Jaspers, 2010). Western cultures value patients' rights to make their own decisions about end-of-life care, but eastern cultures attribute more importance to other factors. Some Chinese individuals, for example, place value on the Confucian idea of familial piety and consider it important enough to not euthanize family members (Lee, Kleinbach, Hu, Peng, & Chen, 1996). Arab Muslims and Arab Christians also tend not to support ending a patient's life, even if the person was not consciously aware, and prefer to let the patient die at home in the care of family (McCormick, 2011). Support for euthanasia is higher when it involves an elderly patient compared to a younger patient (Stolz et al., 2015). However, opinions on euthanasia do not seem to vary by age, with high school students and middle-aged respondents showing similar levels of acceptance (Allen, Chavez, DeSimone, Howard, & Johnson, 2006). The right-to-die movement, which seeks to change laws with regard to patients' autonomy in choosing to die, currently sits at 84% approval among Americans (McCormick, 2011). Physicians show similar levels of acceptance, but they require specific criteria to have been met

before considering assisted suicide, such as having an established relationship with the patient (Cohen, Fihn, Byoko, Johnson, & Wood, 1994).

Juries

Cases involving euthanasia often require rulings from juries, who are expected to be impartial and make objective analyses of evidence (Costanzo & Krauss, 2012). Although juries are influenced by the strength of evidence in a case, they are not well-equipped to evaluate complex information and are susceptible to basing their decisions on sympathy, heuristic reasoning, and attribution errors (Bornstein & Greene, 2011). For example, when juries are evenly split between verdicts, they will more often choose acquittal over conviction (MacCoun & Kerr, 1988). Jurors who favor acquittal must only establish a reasonable doubt while those who favor conviction must attempt to remove all doubt, an endeavor that requires more mental resources. Acquittal occurs more often when the idea of reasonable doubt is broadly defined, leaving the interpretation up to the jury. However, research suggests that clear definitions that require high thresholds of doubt can diminish this bias (Devine, Clayton, Dunford, Seying, & Price, 2001).

Outside observers tend to compare the jury decision-making process to a mathematical or computational model (Costanzo & Krauss, 2012). Jurors are assumed to view evidence objectively and shift their views based on the weight of the evidence. However, research suggests that juries subscribe more to a “story model” of decision making, in which they place more weight on the background and motives of the defendant (Devine et al., 2001). Jurors will construct their “story” as the trial progresses and choose a verdict that best fits with the narrative they have selected, although each member will likely have formed a different narrative (Heffer,

2012). This model suggests that jurors bring biased information into their decisions based on both their personal beliefs and outside sources.

To help juries interpret complex aspects of a case, courts may include testimony from an expert in a particular field. Expert witnesses who provide highly complex testimonies instill jurors with more confidence in the expert's side of the case, but only if the expert demonstrates strong credentials, such as advanced degrees and extensive experience in research (Cooper, Bennett, & Sukel, 1996). In other words, if the expert's testimony is too complex to understand, jurors will attempt to reduce mental effort needed to understand the testimony and only consider the expert's credentials. This research found that more jurors (91%) sided with the expert's side of the case when he gave a complex testimony with strong credentials compared to an expert that gave a complex testimony with weak credentials (64%).

Juries are negatively affected by biases from outside the courtroom setting, but research has also shown that events during the trial can create biases. Hart (1995) has shown that jurors can be influenced by their perceptions of the judge's predilection in a case. Jurors will make their decisions based on what they believe the judge's expectations are, even when told to disregard the judge's views and make their own decisions. Jurors can also have unrealistic expectations of their own abilities, believing that the likelihood they will make a wrongful conviction/acquittal is only 5-10% (Arkes & Mellers, 2002). However, it is estimated that about 18% of jury verdicts are inaccurate (Spencer, 2007). Despite being susceptible to these common biases, jurors are often unaware of their severity.

As a standard practice, judges provide jurors with instructions, which are drafted to explain the role of the jury and guide decision-making. These instructions should be easily understandable even to people with no background in law (Lieberman & Sales, 2000) but research

has consistently shown that jurors only understand about half of the instructions they receive (Charrow & Charrow, 1979; Reifman, Gusick, & Ellsworth, 1992; Weiner et al., 2004). Jurors are permitted to ask judges for clarification of specific words or phrases, but are not always aware of this option (Miles & Cottle, 2011). Reifman et al. (1992) has shown that jurors who receive clarification for instructions demonstrate greater comprehension (67%) compared to jurors who only receive basic repetition of instructions (45%). Miles and Cottle (2011) suggest that overall comprehension of jury instructions can be improved if judges are encouraged to both clarify ambiguous statements and provide a teaching role for pertinent legal terms and definitions.

Juror Stereotypes

Many people have similar mental images of a criminal's physical and social characteristics and entering a trial with these stereotypes in mind can affect decision-making. Specific characteristics may come to mind when thinking of a criminal, such as a twenty-year-old lower-class African-American male committing an auto theft (Smalarz, Madon, Yang, Guyll, & Buck, 2016). This quick formation of a criminal profile is an example of the availability heuristic (Tversky & Kahneman, 1973), which relies on recall of the most salient or immediately retrievable pieces of information. Information that is easily recalled is assumed to be more important than what is not recalled and people will use this information to make biased assumptions about a larger set of events (e.g., assuming all criminals are violent).

People rely on the availability heuristic as a mental shortcut that allows them to think of the most immediate examples of criminal and racial stereotypes. These stereotypes may only be representative of a small subset of criminals, but people will use them as a basis for judgment and decision-making. As a result, specific race groups will be perceived as more likely to

commit certain crimes (e.g., Quillian & Pager, 2001). As a salient example, a Pittsburgh news anchor was fired for a controversial Facebook post in the wake of a shooting that killed six people. With no actual suspects, she claimed the perpetrators were likely “young black men” who had “multiple siblings from multiple fathers” and have had previous run-ins with the law (Bowerman, 2016).

Physical characteristics associated with a tough or rule-breaking disposition can also enhance jurors’ willingness to convict a defendant. In a mock jury experiment, Funk and Todorov (2013) found that the presence of a facial tattoo activates criminal stereotypes and leads to a higher belief that the defendant will reoffend; however, the presence of a tattoo does not affect the length of the sentence given. People possessing more Afrocentric facial features, such as dark skin, wide noses, and full lips, also tend to receive longer sentences. (Blair, Judd, & Chapleau, 2004). The authors surmise that judges use Afrocentric traits to infer negative stereotype information about an inmate. However, an inmate did not necessarily have to be black for this effect to occur; within their racial group, white inmates with more Afrocentric features were given longer sentences than those with less Afrocentric features.

Research suggests that the general public also makes biased assumptions about a criminal’s personality and social status. For example, criminals are often viewed as destructive toward society, cold, untrusting, antisocial, manipulative and having a low social status or a low paying job (Côté-Lussier, 2016; MacLin & Herrera, 2006). These social traits are also associated with an overall dirty appearance, including poor hygiene, dirty clothes, and unkempt facial hair (MacLin & Herrera, 2006).

Jurors who see a more stereotypical criminal defendant, as described above, are more likely to believe such a person committed the crime and give harsher sentences (Jones, 1997).

However, when jurors encounter exceptions to these stereotypes, they experience increased agitation and frustration due to having their stereotypical views contradicted (Förster, Higgins, & Strack, 2000). Jurors will try to resolve the inconsistency between their stereotypes and the disconfirming evidence they encounter and may give a guilty verdict regardless of the incongruity. Rather than hand out a not-guilty verdict and disconfirm their own stereotype, jurors may instead give a guilty verdict in order to avoid cognitive dissonance. Choosing the not-guilty verdict would create two contradictory beliefs in the juror's mind, leading to mental stress or discomfort. In order to relieve this discomfort, jurors will try to explain away disconfirming information and will even subtype the disconfirming individual (i.e., believe this person is simply an exception) in order to maintain their initial beliefs (Kunda & Oleson, 1995).

Jury Nullification

Jury nullification is an acquittal of a defendant by a jury in disregard of the judge's instructions and the evidence found (Rubenstein, 2006). Some jurors may opt for nullification on the grounds that while a defendant may be lawfully wrong, he is not morally wrong (Costanzo & Krauss, 2012). Jurors may recognize a crime has been committed from a legal standpoint, but they choose to ignore their most basic expectations (i.e., to be impartial) and rule on their opinions of right and wrong. However, few people outside of the courtroom are aware of jury nullification, and judges will try to ensure jurors are not aware of this power (Rubenstein, 2006). Potential jurors who know of nullification can be removed during the voir dire process and defense attorneys can be held in contempt of court if they argue for nullification.

However, people may still learn of nullification through informal channels and end up serving on a jury. Rubenstein (2006) argues that when only a small proportion of jurors know of this power, nullification begins to occur arbitrarily and is not necessarily being used in the most deserving cases. Essentially, nullification only becomes a factor in cases that, by happenstance,

involve a juror who knows of its existence. Judges may have little or no control over what cases are affected by nullification, so its application becomes uneven.

Although judges will not make jurors aware of the existence of nullification, it can theoretically occur in any trial (Rubenstein, 2006). Recently, New Hampshire passed a bill that requires jurors to be instructed about nullification in all cases (Volkh, 2016). Similar practices could be implemented in other states, but courts fear that indiscriminate allowance of jury nullification can encourage jurors to act on bias and prejudice, even if no actual nullification occurs (Rubenstein, 2006). For example, defendants who commit crimes against unsympathetic victims may be treated more leniently than the evidence allows (Horowitz, Kerr, Park, & Gockel, 2006). For these reasons, jurors are typically not encouraged to exercise their power to nullify.

Even if no nullification instructions are present, the language in standard instructions may make jurors more likely to acquit. Some states have differences in the specific wording used when instructing jurors. Arizona jury instructions frequently use phrases beginning with “You must...” (www.federalevidence.com) while similar phrases in Vermont jury instructions begin with “You should...” (www.justice.gov). Although subtle, this difference in wording may affect juries’ willingness to nullify. Vagueness of language in jury instructions can also be an issue. When instructions identify qualities like “unreasonable behavior” as a basis for determining guilt, the jury can apply any kind of moral interpretation to this term and potentially choose to acquit if they don’t deem a behavior unreasonable (Lee, 2016).

When nullification does become a factor, morally ambiguous cases may receive more sympathetic treatment while clear cases of wrongdoing may be dealt with more severely. Such a decision is highly likely to occur in euthanasia cases. Meissner, Brigham, and Pfeifer (2003) instructed participants to respond to euthanasia cases as mock jurors. The authors presented

participants with either standard jury instructions or one of two types of nullification instructions. The standard instructions described criteria for burden of proof, presumption of innocence, and reasonable doubt. The two nullification instructions (mild and radical) differed in the degree to which jurors were made aware of the power to nullify, with the mild instructions being more subtle. Cases also varied in the manner of death (gunshot or unplugging a respirator) which were meant to convey differing levels of violence. Results indicated that participants were more likely to rely on sympathy and emotion to make their decisions. Additionally, participants were less likely to find the perpetrator guilty if the method was less violent. They were also less likely to reach a guilty verdict with either of the nullification instructions as opposed to the standard instructions, but there were no significant differences between the mild and radical nullification instructions.

In another study, Horowitz (1988) exposed participants to different case vignettes and in some conditions, gave explicit jury nullification instructions. In a case involving euthanasia, the defendant was treated more leniently, while a defendant who killed a pedestrian in a drunk-driving case was treated more harshly. In this experiment, nullification instructions encouraged jurors to look at evidence as secondary or irrelevant; they instead considered the defendants' intent and situation when choosing a verdict, basing their decisions on sympathy or anger. In more extreme cases, awareness of jury nullification can cause jurors to ignore laws they simply do not agree with. Compared to normal jurors, highly authoritarian jurors, who also tend to be more close-minded and less accepting of outgroups, rely much more on their personal feelings and biases when aware of jury nullification (Kerwin & Shaffer, 1991).

One well-known euthanasia case is that of Dr. Jack Kevorkian, a pathologist who assisted terminally ill patients with ending their lives. Kevorkian is often credited with increasing

awareness of end-of-life practices and sympathy toward terminal patients in severe pain (Schneider, 2011). However, public opinion on Kevorkian is polarized. Some supported his push for patients' rights to die and did not agree with the convictions he received (Morris, 1997). Others condemned his push for physician-assisted suicide as furthering his desire to experiment on dying patients (Kenny, 2000).

Dr. Kevorkian was tried for murder by its legal definition in five separate trials. However, most of his victims were patients who were in excruciating pain due to terminal illnesses and had asked for his assistance in ending their lives. He had only provided the means of allowing patients to end their own lives, with the exception of Thomas Youk, who was the last person Kevorkian assisted. Kevorkian administered a lethal injection directly instead of simply providing the means for suicide and videotaped himself doing it. This act led to him serving eight years in prison for second degree murder. However, in three previous trials Kevorkian was acquitted despite having formal murder charges brought against him (Lessenberry, 1996).

Manner of Death

As stated previously, there is a distinction between euthanasia and withholding care, with euthanasia requiring an action that explicitly causes death. However, there are many different methods available to commit euthanasia; a patient can receive a gunshot to the head, be smothered, or receive a lethal injection. These methods communicate different levels of aggressiveness and violence and are likely to elicit different reactions in those not directly involved in the act. Achille and Ogloff (1997) found that people consider lethal injection to be less acceptable than withholding care, but no research has systematically compared acceptance of other methods (e.g., smothering). Meissner et al. (2003) compared the methods of gunshot and unplugging a respirator on ratings of guilt from mock jurors and found that the respirator

method, which the authors interpreted as a less aggressive method, was associated with lower ratings of guilt.

Opinions on killing methods used in euthanasia can be analogous to those used in capital punishment. Due to the Eighth Amendment's prohibition of the use of "cruel and unusual punishment", many states opt for lethal injection, which is seen as the most humane method of execution (Harrison & Melville, 2007). Public opinion on capital punishment had grown steadily more conservative between 1972 and the 1990s, but has since become more liberal as of 2010 (Mulligan, Grant, & Bennett, 2013). Public support for capital punishment is trending toward lower levels, but these views can change based on specific factors of a case. For example, people are more supportive of capital punishment in a child murder case (Dunn, Cowan, & Downs, 2006) or in especially brutal cases that involve multiple victims (Falco & Freiburger, 2011). Additionally, Dunn et al. (2006) found that people were equally willing to give the death penalty in child murder cases regardless of the method used (i.e., shooting or smothering), suggesting that the age of the victim carries more weight than murder method when giving verdicts.

Nullification and euthanasia are commonly studied for their relation to dispositional factors such as authoritarianism, but not with the exact manner of death. Considering the positive support for euthanasia when appropriate, juries should be willing to nullify in euthanasia cases, although opinions could be worsened with the presence of more violent manners of death. Euthanasia cases often involve a husband killing his wife, but it is unknown if people will react differently to an act of euthanasia performed by a child compared to a spouse.

Two studies were performed in order to fill these gaps. The first was meant to acquire opinions on different situations and methods of euthanasia and/or mercy killing. The second examined willingness to nullify in a mock court case. Participants acted as mock jurors and the

case varied by manner of death, executor of euthanasia, and the types of instructions received. Kerwin and Shaffer (1991) and Meissner et al. (2003) found that the presence of nullification instructions led participants to make decisions based more on sympathy and emotion, so it was expected that the presence of nullification instructions in the present study would result in more not guilty verdicts and shorter sentences. Meissner et al. (2003) incorporated both mild and radical nullification instructions but found no differences between the two with regard to number of not guilty verdicts. Therefore, the present study included standard instructions and only one version of nullification instructions.

It was expected that participants would react less harshly toward acts of euthanasia performed by family members or friends as opposed to a physician. Schoonman, van Thiel, and van Delden (2013) exposed participants to hypothetical scenarios in which a patient asked their son, friend, or non-physician professional for the means to end their own life (assisted suicide). Support for this decision was highest when the son was asked and lowest when the friend was asked. Although the professional received middling levels of support, this may be due to participants' perception that a professional would have more knowledge of and be better suited to providing assisted suicide information compared to a friend. The present study incorporates acts of euthanasia meant to directly cause death as opposed to providing the means to the patient. As such, the physician was expected to receive the lowest level of support due to such an act being highly unfitting of their role as a doctor.

Based on the results of Meissner et al. (2003), which suggested that less violent manners of death (i.e., unplugging a respirator) led to a lower likelihood of guilty verdicts, participants were also expected to respond less harshly to less aggressive manners of death, such as lethal injection, as opposed to more aggressive methods, such as smothering or gunshots.

Study 1

There is minimal research examining general opinions on different methods of euthanasia. Thus, this study was intended to provide a baseline level of participants' opinions on these methods. Previous research (e.g., Achille & Ogloff, 1997; Meissner et al., 2003) suggests that the most acceptable manners of death are those that cause minimal pain. Research has also shown that some methods are viewed with equal weight in specific circumstances (e.g., smothering/shooting in a child murder case). Additionally, one method may be viewed more negatively depending on the situation; lethal injection is seen as the most acceptable method of capital punishment, but not of euthanasia (Harrison & Melville, 2007). Although this method is viewed less positively in euthanasia cases (Achille & Ogloff, 1997), it is expected to elicit the highest level of acceptance in this study.

There are no studies comparing acceptance rates of more aggressive methods of euthanasia, such as smothering and shooting, but based on the assumption that people are most accepting of methods that cause minimal pain, it is expected that, for example, a smothering would be seen as less acceptable than shooting; a smothering can take minutes and be perceived as causing a great deal of pain, whereas a gunshot to the head can be perceived as a quick and painless death. Measures of authoritarianism and religiosity were also collected due their negative relationship with acceptance of euthanasia. Results from this study were used to create the materials and inform the hypotheses of Study 2.

Method

Participants. Participants were recruited via Amazon Mechanical Turk (MTurk) to participate in this study. MTurk is a crowdsourcing online marketplace that allows respondents to complete Human Intelligence Tasks (HITs), such as surveys and other tasks, in exchange for monetary payment. International respondents can complete HITs, but 80.8% of respondents

come from the United States and India (Ipeirotis, 2010). HITs containing a link to the study on Qualtrics were posted to the site. Those who completed the study were compensated with 1 USD, which was funded through a research grant.

A total of 101 participants completed this study. Eight participants were non-United States residents and were excluded from analyses, leaving a total of 93 participants with an age range of 21-60 ($M = 31.6$, $SD = 7.7$). Participants consisted of 58 men, 34 women, and one participant who did not specify a gender. Races consisted of 67.7% Caucasian, 9.7% Asian, 7.5% African American, 8.6% Hispanic, 5.4% mixed race, and 1.1% other. Table 1 shows participant demographics from both Study 1 and Study 2.

Materials.

Euthanasia methods. Participants were shown 17 brief narrative summaries describing different methods (e.g., gunshot, poison) used to euthanize a patient who had been hospitalized (Appendix A). The narrative was written in passive voice so as to not identify a specific culprit and used gender-neutral language. Each method was written in a few sentences describing how the act is carried out and what physiological effects it has on the patient. Participants were then asked to rate their agreement with statements that each method fits three traits (i.e., humane, aggressive, painful) on a 5-point Likert scale ($1 = strongly disagree$; $5 = strongly agree$).

Euthanasia questionnaire. Participants responded to a series of 18 statements asking for their opinions on euthanasia and end-of-life decisions. Select items were taken from the Euthanasia Attitudes Measure (EAM; Cohen, Van Weasemael, Smets, Bilsen, & Deliens, 2012) and the Attitudes Toward Euthanasia Measure (ATE; Roelands, Van den Block, Geurts, Deliens, & Cohen, 2015). Participants were instructed to respond to each statement on a 5-point Likert

scale ($1 = strongly disagree$; $5 = strongly agree$). Specific items that appeared in the study can be seen in Appendix B. Cronbach's alpha for the total combined measure was .94.

The EAM (Cohen et al., 2012) consists of 20 items asking for participants' opinions on end-of-life decisions (items 1-9), euthanasia law (items 10-14), and legal/procedural safeguards of euthanasia (items 15-20). For the purposes of this study, only items 1, 2, 3, 6, 9, 15, 16, and 19 were included. The remaining items were designed to be answered by physicians and were excluded on the basis that they would not be applicable to the current study, which is examining opinions of the general population. The final scale consisted of eight items.

The ATE (Roelands et al., 2015) contains items asking for opinions on euthanasia, divided into several sections. Section 9, which is given to participants who indicate that euthanasia is sometimes acceptable (as opposed to always or never), is included in the present study. This section contains 10 items ($\alpha = .96$) asking for agreement with euthanasia in various conditions and scenarios. The remaining items were designed to be answered by medical students with some knowledge of medical procedures and laws and were excluded from the present study.

The eight items of the EAM yielded a Cronbach's alpha of only .71, so principal components analyses were run. Results indicated two distinct factors of the EAM (Eigenvalues = 3.29 and 1.76), hereafter referred to as "moral" and "pragmatic" factors, so each factor was also analyzed separately. The items that contribute to the pragmatic factor address medical protocols (e.g., "In order to give advice as a second physician in a euthanasia request, one has to have followed special training") while those contributing to the moral factor seem to measure factors of emotion and right vs. wrong (e.g., "Everyone has the right to decide about their life and death").

Items 1 through 4 contributed to the moral factor (Eigenvalue = 3.29) and items 6 and 7 contributed to the pragmatic factor (Eigenvalue = 1.76). However, Items 5 and 8 were indicated as belonging to two different factors between Study 1 and Study 2 (and these items were crossloaded across the factors), so these items were excluded from analyses, leaving four items in the moral factor and two items in the pragmatic factor (all scale items can be seen in Appendix B). In total, three different euthanasia attitudes variables were analyzed: the ATE and the moral and pragmatic factors of the EAM. Cronbach's alpha levels of the two factors were .85 and .68, respectively.

Right-Wing Authoritarianism Scale. The Right-Wing Authoritarianism Scale (RWA; Altemeyer, 1990) is a 30-item measure designed to examine right-wing authoritarianism (Appendix C). Altemeyer defines this construct as a combination of authoritarian submission (i.e., submission to society's authorities), authoritarian aggression (i.e., aggression towards others based on authority), and conventionalism (i.e., adherence to social conventions established by authority). Participants respond to a series of statements and rate their agreement with each statement on a nine-point Likert scale from -4 to +4 (-4 = *very strongly disagree*, 0 = *neutral*, +4 = *very strongly agree*). Reliability ratings range from .77 to .97 across several samples, and validity values range from .51 to .81. For the present study and sample ($N = 93$), reliability was $\alpha = .96$. Scores on the RWA were aggregated across all 30 items. Higher levels of authoritarianism are associated with more punitive sentencing in criminal trials (Narby, Cutler, & Moran, 1993). In the present study, high scores on the RWA may be associated with less acceptance of euthanasia, even when nullification instructions are given.

Religiosity Measure. The Religiosity Measure (RM; Lewis & Bates, 2013) is a three-item ($\alpha = .97$) questionnaire that asks participants about the extent and importance of their religious

beliefs (Appendix D). Each item is measured on a four-point Likert scale (*1 = not at all, 4 = very*). Higher aggregate scores on this measure indicate higher levels of religiosity.

Demographic survey. At the end of the study, participants completed a demographic survey (Appendix E) and provided information on gender, age, and race. Participants were also asked to indicate their religious affiliation, country of origin, as well as the state or province (if applicable), due to international differences in laws and opinions regarding euthanasia.

Design and Procedure. A within-subjects design was used in which each participant responded to a series of 17 descriptions of euthanasia methods. Reverse counterbalancing was used to control for order effects. Each participant viewed each method once. After reading an informed consent document (Appendix F) and providing their consent, participants responded to the 17 narrative descriptions of euthanasia methods. They were instructed to read each method and imagine it was performed on a patient who was terminally ill and in a great deal of pain and rated each method on levels of humanity, brutality, and painfulness. Finally, they completed the adapted euthanasia questionnaire, Right-Wing Authoritarianism Scale, Religiosity Measure, the demographic survey, and read a debriefing form (Appendix G).

Results

When analyzing ratings of humanity, brutality, and painfulness of manners of death, an aggregate mean rating of all three constructs was calculated individually for each method. Higher ratings of brutality and painfulness were taken to indicate more negative opinions of the manner of death. Ratings of humanity were reverse-coded because lower ratings of humanity indicate more negative opinions. Specific manners of death to include in Study 2 were chosen based on the methods that received the most extreme, least extreme and median ratings of these three constructs. The values of these methods, based on the sum of ratings of brutality, mercifulness,

and pain, ranged between 7.49 and 14.16, out of a maximum of 15. A principal components analysis was performed on 17 factors (the euthanasia methods) and results indicated only one factor (Eigenvalue = 9.07) that accounted for over half the variance.

Lethal injection was rated as the most acceptable method ($M = 7.49$). The median of these mean values belonged to “submerged in water” ($M = 13.17$) and the highest value belonged to “being set on fire” ($M = 14.16$). However, as these methods were hypothetically being performed in a hospital setting, the methods of being drowned or set on fire were not considered realistic or practical. The second-highest rated method, “head smashed in” ($M = 14.14$), was instead selected as the least acceptable method. Likewise, the bag smother method ($M = 13.22$) was the next highest rated method after “submerged in water” and was chosen for its more realistic application in a hospital environment. The final methods chosen for use in Study 2 included lethal injection (high acceptance), bag smother (moderate acceptance), and head smash (low acceptance). Mean and SD values for all methods can be seen in Table 2. Method ratings were not significantly predicted by the ATE ($b = .007$, $SEb = .015$, $\beta = .046$, $p = .663$) or the EAM moral factor ($b = -.012$, $SEb = .043$, $\beta = -.03$, $p = .779$). However, the EAM pragmatic factor was a significant predictor ($b = .405$, $SEb = .094$, $\beta = .411$, $p < .001$), such that higher ratings were predicted by higher scores on the pragmatic factor of the EAM. Right-wing authoritarianism ($b = -.002$, $SEb = .004$, $\beta = -.053$, $p = .611$) and religiosity ($b = .054$, $SEb = .052$, $\beta = .106$, $p = .310$) also did not significantly predict method ratings. Men gave significantly lower ratings of euthanasia methods ($M = 11.92$, $SD = 1.72$), than women ($M = 13.20$, $SD = 1.21$), $t(90) = -3.82$, $p < .001$.

Discussion

Consistent with hypotheses, participants gave the lowest mean ratings of brutality and pain and the highest rating of mercifulness to lethal injection. This finding is also consistent with previous research that has found that lethal injection is one of the most acceptable methods of euthanasia (Achille & Ogloff, 1997). As such, this method was used in Study 2 as the “high acceptance” euthanasia method.

Only the EAM pragmatic factor was found to be a significant predictor of method ratings, although it is unclear why. Because the scenarios were written with very little context, participants were possibly able to interpret them more objectively. Additionally, because these items deal with more pragmatic factors of euthanasia, they may have been a more valid predictor. The ATE was also found not to be a significant predictor of method ratings. This measure specifically asked for opinions on euthanasia in a hospital setting, so participants may have interpreted the questionnaire and the method ratings differently. Despite the intended vagueness of the euthanasia descriptions, participants may have interpreted each one with a specific scenario in mind, which could have affected the results.

Women were found to give higher ratings than men, which could be taken to mean that women find euthanasia less acceptable in general compared to men. This finding seems to be consistent with previous research that found men to be more supportive of legalizing euthanasia (Leppert et al., 2013). In the present study, higher ratings could be taken to indicate lower support for these specific methods as men and women showed no difference in general euthanasia attitudes. This finding may also be due to differences in how men and women interact with and relate to others. Women are more likely to form emotional attachments than men and it has been found that female physicians form closer relationships to dying patients and their

families (Dickinson & Tournier, 1993), suggesting female physicians have a more nurturing attitude toward patients. This effect seems to appear in the present study, with female participants giving higher ratings to the methods, indicating less favorable opinions.

Study 2

No research has examined differences in jurors' opinions on euthanasia performed by a family member or a physician. The case of the Zygmanski brothers (Macguire, 1974) seems to have been viewed as a sympathetic act of mercy performed by a family member. A similar act performed by a physician may be viewed more negatively as it may be seen as highly inappropriate and unprofessional for a doctor to perform. Public support for physician-assisted suicide sits at 64%, but specific circumstances of the case can cause this acceptance to fluctuate (Emanuel, Onwuteaka-Philipsen, Urwin, & Cohen, 2016). Rates of acceptance for non-standard euthanasia methods performed by physicians (e.g., smothering) are unknown. Meissner et al. (2003) examined the methods of gunshot and unplugging a respirator and found less favorable reactions to the more aggressive method (gunshot) but no known study has examined a wide range of different methods such as smothering. It was also hypothesized that jurors would be more likely to nullify a case of euthanasia performed by a family member compared to a physician.

Because real jurors are not necessarily aware of or given explicit awareness of nullification (Rubenstein, 2006), some conditions contained nullification instructions. Other conditions instead provided generic instructions. It was expected, based on Kerwin and Shaffer (1991) and Meissner et al. (2003) that conditions that contain nullification instructions would lead to more instances of nullification and reduced sentences. As in Study 1, measures of authoritarianism and religiosity were collected. Participants who choose not to nullify may

demonstrate high levels of authoritarianism (Kerwin & Shaffer, 1991) and/or religiosity (Bevacqua & Kurpius, 2013).

Method

Participants. The recruitment of participants for Study 2 was identical to that Study 1; participants completed the study online through MTurk and only completed one of several possible conditions. Those who participated in Study 1 did not participate in Study 2.

Participants in this study were compensated with 1 USD from a research grant. Participants received a link to the study on Qualtrics and were randomly assigned to one of the 18 conditions.

A total of 676 participants participated in this study. Fifty-six of these participants were non-United States residents and were excluded from analyses. Additionally, one participant was excluded for providing nonsense data (e.g., entering the same value for all attitude measure items) and another was excluded after a technical malfunction caused two versions of the vignette to appear. Analyses were thus performed with a total of 618 participants with an age range of 18-74 ($M = 37.0$, $SD = 12.0$). Participants consisted of 332 men and 283 women. Three participants did not identify with a specific gender. Participant races consisted of 76.5% Caucasian, 7.8% Asian, 7.3% African American, 3.2% Hispanic, 3.9% mixed race, and 1.3% other.

Design. Conditions varied by manner of death (most extreme/least extreme/median), type of defendant (wife/friend/doctor), and type of instructions (general/nullification) to create a 3 x 3 x 2 factorial design.

Materials.

Case vignette. Participants read a case vignette detailing the case of an elderly man who was killed in the hospital (Appendix H). In this vignette, this man was hospitalized for severe

burns and is later euthanized by his wife, friend, or doctor using one of three methods. The act is witnessed by an orderly, who reports it as a crime and results in the wife, friend, or doctor appearing as a defendant in court. The vignette is followed by a paragraph describing either a jury's power to nullify or a jury's general role and expectations in a court case. Participants assumed the role of a juror tasked with providing a guilty/not guilty verdict and recommending a sentence.

Instructions. All participants received instructions (Appendix H) describing the general roles and expectations of a jury, which described the concepts of presumption of innocence, burden of proof, and reasonable doubt. It also provided a clear statement of the defendant's name and the crime she is being tried for. The final paragraph of these instructions differed depending on condition; some participants read a brief description of the existence of and protocol for jury nullification (nullification instructions) or a general statement of adhering to the law and not allowing personal biases to interfere with decision-making (standard instructions).

Attitude measures. Participants completed the same measures of euthanasia attitudes, right-wing authoritarianism, and religiosity that were used in Study 1. As in Study 1, the euthanasia attitudes measures were separated into the ATE and Factors 1 and 2 of the EAM and analyzed separately. Cronbach's alpha values were .97, .84, and .72, respectively. Reliability ratings for authoritarianism and religiosity were $\alpha = .96$, and .95, respectively.

Demographic survey. Participants also completed the same demographic survey present in Study 1. Information on gender, age, race, country, religious affiliation, state, and province of origin were collected (Appendix E).

Procedure. Participants read through an informed consent and clicked "I agree" in order to participate. They were then presented with the case vignette, followed by the general

instructions and were instructed to read both carefully. Participants were given as much time as they needed to read these materials, but they were not able to proceed to the next section until at least one minute (vignette) or three minutes (instructions) had passed. This design was implemented to prevent participants from skipping the vignette and instructions altogether. As a manipulation check, participants answered five factual questions about the vignette in order to ensure they thoroughly read it (Appendix I).

On the next screen, participants were asked, based on the facts of the case, what verdict they would give the defendant (guilty or not guilty), and how many years they would suggest for incarceration, with a minimum of 5 years and a maximum of 25. They were also asked in an open-ended response to explain their rationale for their verdict (Appendix I). Participants then completed the euthanasia questionnaires, RWA, RM, and the demographic survey. On the final screen, participants read a debriefing statement and were thanked for their participation.

Results

Sentence.

Analyses of the sentence variable only included participants who gave a guilty verdict ($n = 479$). A 3 (manner of death: injection, bag smother, head smash) \times 3 (perpetrator: wife, friend, doctor) \times 2 (instructions: standard, nullification) factorial ANOVA revealed that there were significant differences in the length of sentences depending on the vignette, with the wife receiving shorter sentences ($M = 8.97$, $SD = 6.71$) compared to the friend ($M = 10.28$, $SD = 6.64$) or doctor ($M = 12.95$, $SD = 7.49$), $F(2, 461) = 11.01$, $p < .01$, partial- $\eta^2 = .046$. There were also significant differences in sentence based on the euthanasia method, with the injection method receiving shorter sentences ($M = 8.64$, $SD = 6.19$) than the bag smother ($M = 10.47$, $SD = 6.96$) or head smash methods ($M = 12.90$, $SD = 7.51$), $F(2, 461) = 13.76$, $p < .01$, partial- $\eta^2 =$

.056 . Participants who received nullification instructions gave longer sentences ($M = 11.21$, $SD = 7.35$) than those who received standard instructions ($M = 10.45$, $SD = 6.97$) but this difference was not significant, $F(1, 600) = 1.46$, $p = .228$, $\text{partial-}\eta^2 = .003$. There was a significant 2-way interaction between the perpetrator and the instruction variables ($F(2, 461) = 4.54$, $p = .011$, $\text{partial-}\eta^2 = .019$). Means are graphed in Figures 1-3.

Tukey's HSD post-hoc tests were run to clarify significant differences in sentencing between groups based on the perpetrator and euthanasia method variables. The doctor received significantly longer sentences when compared to both the wife ($p < .001$) and the friend ($p = .001$), but there was no significant difference between the wife and friend ($p = .196$). The head smash method received significantly longer sentences than both the injection ($p < .001$) and bag methods ($p = .003$) and there was a significant difference between the injection and bag methods ($p = .049$), with the bag method receiving longer sentences.

Linear regression analyses were used to test for significant predictors of sentence length. Sentences were significantly predicted by right-wing authoritarianism ($b = .022$, $SEb = .007$, $\beta = .153$, $p = .001$) and religiosity ($b = .327$, $SEb = .099$, $\beta = .149$, $p = .001$), such that higher scores on these variables were associated with longer sentences. Regression lines are plotted in Figure 4. Regarding euthanasia attitudes, sentence length was significantly predicted by the ATE ($b = -.200$, $SEb = .026$, $\beta = -.292$, $p < .001$) and the EAM moral factor, such that longer sentences were associated with lower scores on the euthanasia attitude measures ($b = -.570$, $SEb = .077$, $\beta = -.287$, $p < .001$). The EAM pragmatic factor was not a significant predictor. Regression lines are plotted separately for the two factors of the EAM (Figure 5) and the ATE (Figure 6).

It was also found that women gave longer sentences on average ($M = 8.74$, $SD = 7.99$) than men ($M = 8.11$, $SD = 7.53$), but this difference was not significant, $t(613) = -1.011$, $p =$

.313. Participants were collapsed into two groups based on religious affiliations of Catholic/Protestant ($n = 254$) and Agnostic/Atheist ($n = 243$). There was a significant difference in sentence length between the two groups, with Catholic/Protestant participants giving longer sentences ($M = 9.46, SD = 8.09$) than Agnostic/Atheist participants ($M = 7.40, SD = 7.48$), $t(495) = 2.95, p = .003$.

Verdict.

Overall, more participants gave guilty verdicts ($n = 479$) than not guilty verdicts ($n = 139$). A binary logistic regression revealed significant main effects of method, perpetrator, and instructions. As predicted, participants gave more not guilty verdicts when the injection method was used (47%) compared to the bag smother (39%) and head smash (14%), $b = 1.349, SEb = .285, Wald (1 df) = 22.429, p < .001$. Participants also gave more not guilty verdicts when the perpetrator was a wife (46%) compared to a friend (29%) or doctor (25%), $b = .711, SEb = .248, Wald (1 df) = 8.234, p = .004$. Participants reading nullification instructions also gave more not guilty verdicts (66%), $b = .855, SEb = .208, Wald (1 df) = 16.955, p < .001$. There were no significant two-way or three-way interactions. Across all eighteen conditions, participants gave the most not guilty verdicts in the wife/injection/nullification condition (48%; $n = 19$). Data is displayed in Figures 7-9.

Exploratory Analyses.

Although not a main variable of interest, the legal status of assisted suicide in a participant's state of residence may have influenced their results. As of now, assisted suicide is legal in California, Colorado, Montana, Oregon, Vermont, Washington, and Washington DC. Participants were categorized as either being from a "legal" state (the above listed states; $n = 109$) or "illegal" state (all other states; $n = 509$). Participants from legal states gave lower

sentences ($M = 7.72$, $SD = 7.48$) than those from illegal states ($M = 8.50$, $SD = 7.79$), but this difference was not significant, $t(616) = .976$, $p = .331$. There was also no significant difference between verdicts, indicating that both groups gave similar rates of verdicts, $\chi^2(1) = .394$, $p = .530$.

Discussion

As predicted, shorter sentences and fewer guilty verdicts were given to perpetrators with a closer relationship to the patient (wife/friend) than the doctor. Conditions incorporating lethal injection also yielded the lowest sentences and fewest guilty verdicts than conditions using other methods. Contrary to hypotheses, nullification instructions yielded higher sentences than standard instructions. Although this difference was not significant, there was a significant interaction between the instructions and perpetrator, suggesting that the presence of nullification instructions alone did not greatly affect participants' sentencing decisions and depended on the specific perpetrator. These results suggest that nullification is more likely to occur when the perpetrator has a close relationship with the patient, uses a non-aggressive method of euthanasia, and if the jury is provided nullification instructions.

Consistent with past research, higher scores of authoritarianism and religiosity were significantly associated with longer sentences. However, these results only occurred when analyzing participants who gave guilty verdicts. When including participants who gave not guilty verdicts (i.e., sentences of 0 years), these significant correlations disappear. It is possible that people who are highly authoritarian and/or religious are more likely to give guilty verdicts in euthanasia cases.

The lack of significant results between legal/illegal states may be due to the uneven sample sizes, with over 80% of participants residing in states where assisted suicide is illegal.

Further, no data was collected assessing participants' familiarity with their state's assisted suicide laws. It is likely most participants were unaware of the specific laws in their states and their decisions were not affected by them. However, this possibility cannot be examined in the current study. Future researchers may wish to obtain a more balanced sample and assess participants' familiarity with their state's laws.

General Discussion

Participants' decisions seemed to be most affected by the method and perpetrator in the vignette. More acceptable methods (i.e., injection) yielded the lowest sentences and the least acceptable method (i.e., head smashed in) yielded the longest sentences. This finding is consistent with prior research that has found that methods such as lethal injection, which communicate low levels of pain, are seen as more humane ways of killing a person. This finding is also supported by results from Study 1. Lethal injection yielded the lowest ratings of pain and brutality and the highest rating of mercifulness.

Participants gave fewer guilty verdicts and shorter sentences to the wife compared to the friend or doctor. This finding suggests that the perceived closeness of the relationship between perpetrator and victim played a role in participants' decisions. A spousal relationship implies stronger feelings of love and care than a relationship between two friends. Conversely, a doctor/patient relationship should imply a more detached and professional relationship. Thus, an act of euthanasia performed by a doctor on the basis of personal feelings should be seen as highly unprofessional and inappropriate. Indeed, participants gave the doctor the highest sentences with reasons such as "she should have known better!"

Exploratory factor analyses suggested two factors in the EAM, so participants may have interpreted the items differently. The moral factor appears to consist of items dealing with the

sympathetic and moral aspects of euthanasia and the pragmatic factor contained items dealing with medical protocols. The moral factor was found to be a significant predictor of sentence length in Study 2 but not of the method ratings in Study 1, with the reverse being true for the pragmatic factor. The inclusion of nullification instructions in Study 2 may have led participants to make decisions based on emotion and sympathy, so the moral factor seemed to be a more valid predictor of sentence length. Nevertheless, the EAM is not necessarily the most useful measure of euthanasia attitudes. Because an exploratory factor analysis showed two distinct factors, it may be measuring two different variables. Future studies should include measures that focus on a specific factor of euthanasia attitudes.

The presence of nullification instructions yielded a significant difference in verdicts, but not sentence length. Participants may simply have not read the instructions closely or even ignored the instructions. Manipulation check items were not used to assess if participants comprehended the instructions. However, manipulation checks were implemented for the vignette and all participants used in analyses gave responses indicating they read and understood the vignette. As these instructions immediately followed the vignette, it is likely participants paid a similar level of attention to them.

The bag smother method was chosen as a moderately aggressive method compared to the injection and head smash methods based on it having the median total rating score among the 17 methods. However, many method ratings, including the bag smother method, were skewed toward the upper anchor of the scales. In order to select a more moderate manner of death, a better method may have been to average the lowest and highest ratings and select the method that came closest to this value.

This study is limited in that it did not test for gender effects. The patient was always male and the perpetrator was always female. Female offenders are often treated more leniently than males when receiving sentences (Goulette, Wooldredge, Frank, & Travis, 2015) so it's likely that such gender differences would exist in euthanasia cases. In extreme cases, jurors may even be more willing to nullify a euthanasia case involving a female offender. The victim's age may have also affected participants, such that they were more likely to nullify or give shorter sentences because the victim was elderly. Some participants may have based their decisions on a rationale of the patient being old and close to death anyway. Cases involving younger victims will likely receive harsher sentences and fewer instances of nullification.

Because data were collected through Amazon Mechanical Turk, participants could only complete the studies individually. While the present study offers better verisimilitude than most other juror studies in that participants comprised a diverse range of ages and occupations, Study 2 may have benefitted from collecting data from groups in order to increase external validity. However, meta-analyses of mock jury studies showed only marginal differences in several variables. Saks and Marti (1997) found no differences in the rate of correct verdicts between 6-person and 12-person juries. However, larger juries spent more time deliberating and were more likely to contain members of minority groups. When comparing student and non-student jurors, Bornstein et al. (2017) found no significant differences in rates of verdicts and only marginally significant differences in sentencing.

Nevertheless, the present data do not necessarily represent real juries who may spend a great deal of time deliberating before reaching a verdict. The average completion time for Study 2 was just under 16 minutes, a significantly lower amount of time compared to the hours of deliberation in real court cases. Deliberation time was not measured, so it is unknown if different

versions of the vignette would affect this variable. Future studies should incorporate a similar design with groups and obtain both pre- and post-deliberation measures of sentences and verdicts. Meissner et al. (2003) found that post-deliberation guilt judgments were less strongly related to jurors' personal beliefs even with the presence of nullification instructions, suggesting that group deliberation can mitigate the effects of non-evidentiary information.

These studies are the first to offer a comprehensive evaluation of a wide range of euthanasia methods compared to previous studies (e.g., Meissner et al., 2003) that have only compared two or three. Although only three methods were used in Study 2, Study 1 suggested that participants had different perceptions of 17 methods. However, ratings were based on 5-point Likert scales and several methods appeared to be nearly identical to each other in ratings of brutality, mercy, and pain. Larger scales may allow for more distinct differences to emerge. Edlund and Sagarin (2009) found that scales with more points tended to yield more significant effects. For example, a nine-point scale was more likely to yield significant results than a five-point scale.

The purpose of Study 1 was to assess many different methods of euthanasia without any contextual influence, but such acts do not occur in a vacuum and the context of the situation should not be discounted. Participants were told to imagine each scenario in the context of a patient being euthanized in a hospital room. Some of the methods described (e.g., lethal injection) are more realistic for the setting (e.g., set on fire), so this factor may have played into participants' ratings. Euthanizing through immolation or electrocution could be seen as needlessly endangering other people in the hospital, which may have inflated ratings. Future studies should choose more plausible methods or compare methods in different contexts, such as an act of euthanasia taking place in someone's home.

Study 2 provided evidence that participants would choose to ignore evidence and still acquit the defendant. All versions of the vignette included an eyewitness account of the crime and a confession from the perpetrator, yet some participants still gave not guilty verdicts. Among those who gave not guilty verdicts, some participants acknowledged the evidence of murder when asked to explain their reasoning, but viewed the act as merciful and undeserving of punishment. This finding suggests that participants based their decisions on the circumstances surrounding the case. Several participants also noted the nullification instructions as a deciding factor when giving their verdicts, so courts wishing to avoid nullification should consider not providing explicit nullification instructions.

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Table 1

Participant Demographics for Study 1 and Study 2

	Study 1 (N = 93)		Study 2 (N = 618)	
	<i>n</i>	%	<i>n</i>	%
Gender				
Male	58	62.4	332	53.7
Female	34	36.6	283	45.8
Other	1	1.0	3	0.5
Age				
18-25	18	19.4	77	12.4
26-35	53	60.0	285	46.1
36-45	17	18.3	117	19.0
46-55	3	3.0	76	12.3
56-65	2	2.0	47	7.6
66-74	0	0.0	16	2.6
Race				
Caucasian	63	67.7	473	76.5
Asian	9	9.7	48	7.8
African-American	7	7.5	45	7.3
Hispanic	8	8.6	20	3.2
Mixed	5	5.4	24	3.9
Other	1	1.1	8	1.3
Religious Affiliation				
Catholic	11	11.8	109	17.6
Protestant	18	19.4	145	23.5
Agnostic	27	29.0	114	18.4
Atheist	22	23.7	129	20.9
Jewish	1	1.1	10	1.6
Muslim	0	0.0	5	0.8
Hindu	0	0.0	8	1.3
Buddhist	1	1.1	14	2.3
Other	10	10.8	71	11.5
Not Specified	3	3.2	13	2.1

Note. Age range for Study 1 is 21-60.

Table 2

Mean and Standard Deviations of Each Method on Levels of Brutality, Mercy, and Pain

Method	Brutal	Merciful ^a	Painful	Total
Lethal Injection ^b	2.55 (1.42)	2.51 (1.33)	2.43 (1.28)	7.49 (3.64)
Painkiller Overdose	2.98 (1.37)	3.13 (1.24)	3.05 (1.34)	9.16 (2.65)
CO suffocation	3.30 (1.35)	3.37 (1.28)	3.40 (1.42)	10.07 (3.60)
KCN ingestion	3.78 (1.19)	3.92 (1.00)	3.67 (1.18)	11.37 (2.95)
Shot in head	4.29 (0.97)	3.57 (1.25)	3.53 (1.23)	11.39 (2.65)
Smothered with pillow	4.16 (1.04)	4.24 (0.91)	4.33 (1.08)	12.73 (2.65)
Wrist slit	4.31 (0.94)	4.39 (0.75)	4.31 (1.00)	13.01 (2.17)
Stab in neck	4.49 (0.92)	4.37 (0.93)	4.25 (1.05)	13.11 (2.53)
Submerged in water	4.43 (0.93)	4.39 (0.90)	4.35 (1.07)	13.17 (2.44)
Smothered with bag ^b	4.41 (0.90)	4.46 (0.77)	4.35 (1.12)	13.22 (2.31)
Throat slit	4.43 (0.84)	4.53 (0.80)	4.40 (1.01)	13.36 (2.20)
Electrocution	4.57 (0.72)	4.47 (0.82)	4.34 (0.99)	13.38 (2.17)
Wire strangle	4.60 (0.72)	4.51 (0.75)	4.39 (1.06)	13.50 (2.23)
Shot in chest	4.56 (0.73)	4.63 (0.70)	4.42 (0.95)	13.61 (2.05)
Stab in chest	4.67 (0.68)	4.72 (0.61)	4.54 (0.95)	13.93 (1.87)
Head smashed in ^b	4.80 (0.56)	4.75 (0.67)	4.59 (0.95)	14.14 (1.91)
Set on fire	4.80 (0.54)	4.77 (0.66)	4.59 (0.98)	14.16 (1.92)

^aThe values in this column are based on reverse-coded data.

^bThese methods were used as materials for Study 2.

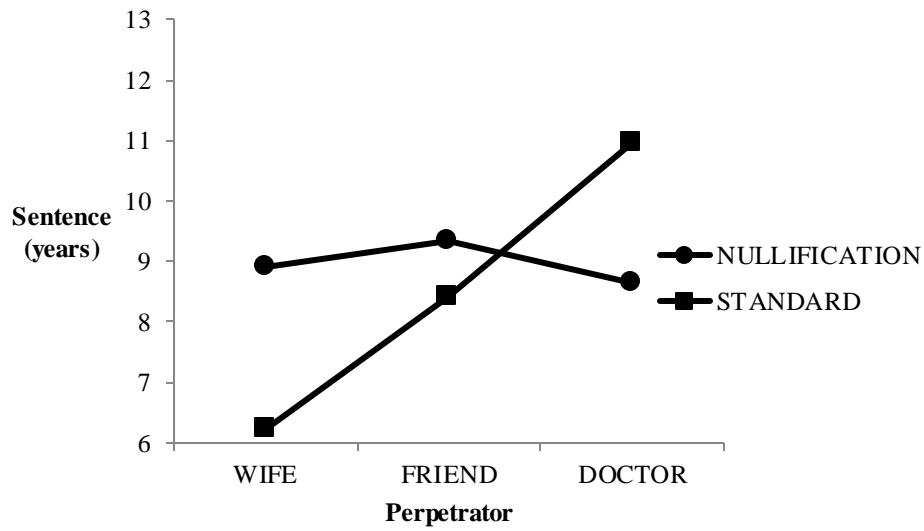


Figure 1. Mean values of sentence for each perpetrator separated by instructions from the “lethal injection” conditions. This figure represents participants who gave “guilty verdicts” only ($n = 479$).

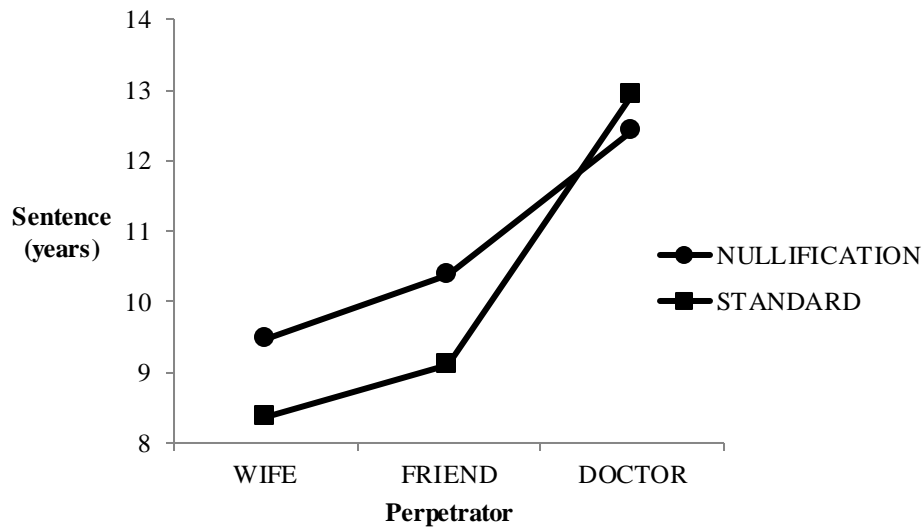


Figure 2. Mean values of sentence for each perpetrator separated by instructions from the “bag smother” conditions. This figure represents participants who gave “guilty verdicts” only ($n = 479$).

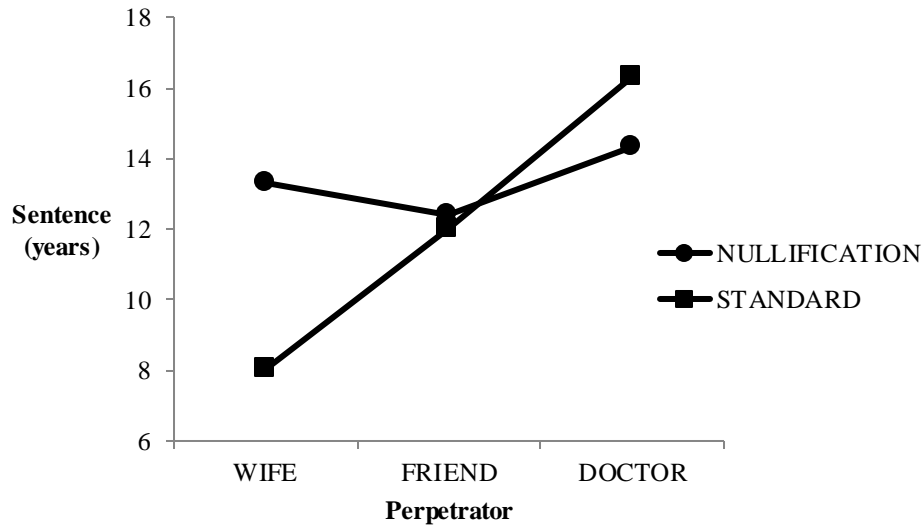


Figure 3. Mean values of sentence for each perpetrator separated by instructions from the “head smash” conditions. This figure represents participants who gave “guilty verdicts” only ($n = 479$).

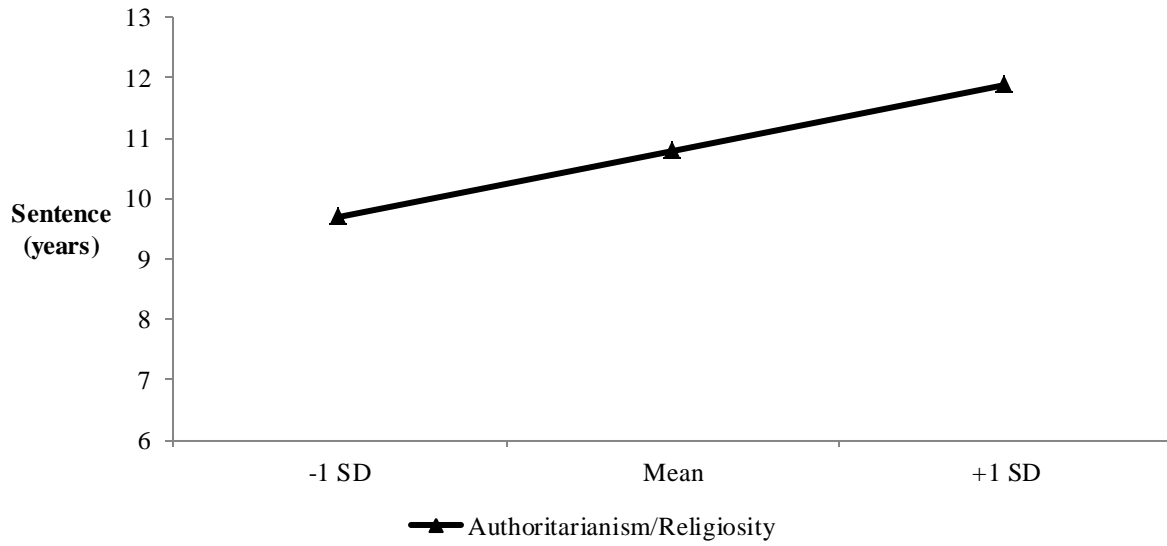


Figure 4. Regression line for sentence based on authoritarianism and religiosity. Values for both variables at the mean and +/- 1 SD points were nearly identical, so both were combined into one regression line. This figure represents participants who gave “guilty verdicts” only ($n = 479$).

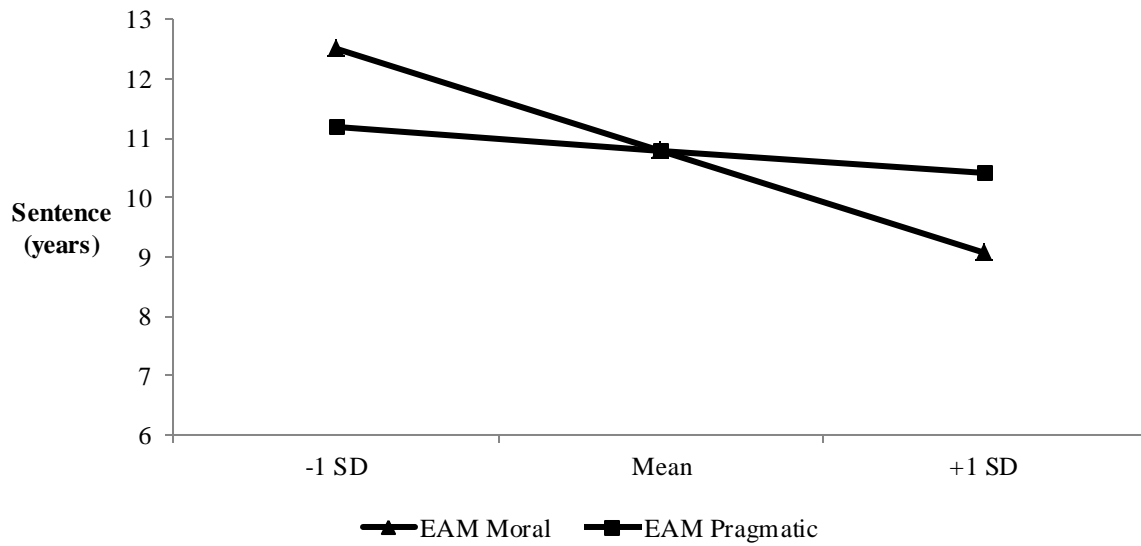


Figure 5. Regression lines for sentence based on the moral and pragmatic factors of the Euthanasia Attitudes Measure (EAM). This figure represents participants who gave “guilty verdicts” only ($n = 479$).

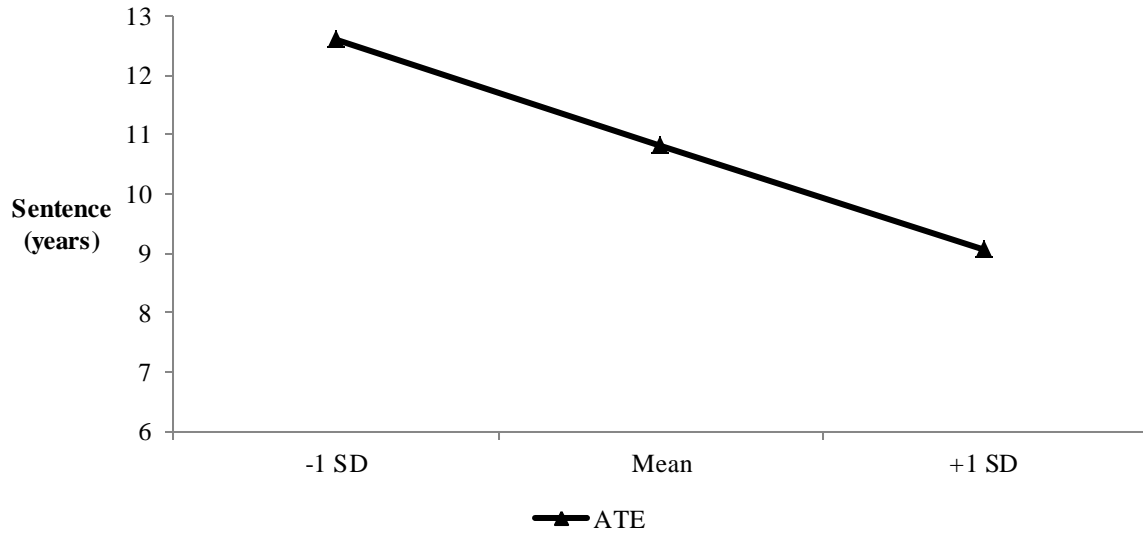


Figure 6. Regression line for sentence based on the Attitudes Toward Euthanasia measure (ATE). This figure represents participants who gave “guilty verdicts” only ($n = 479$).

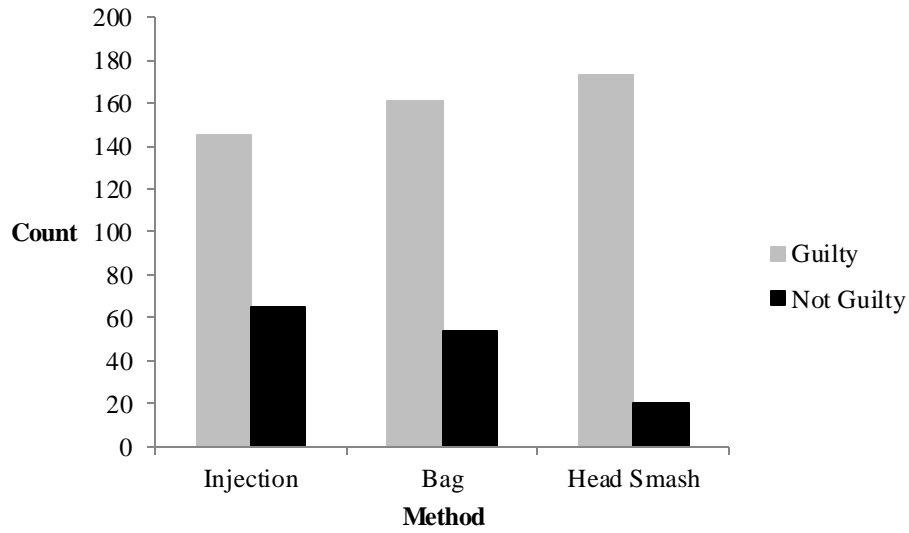


Figure 7. Frequencies of guilty/not guilty verdicts for each euthanasia method.

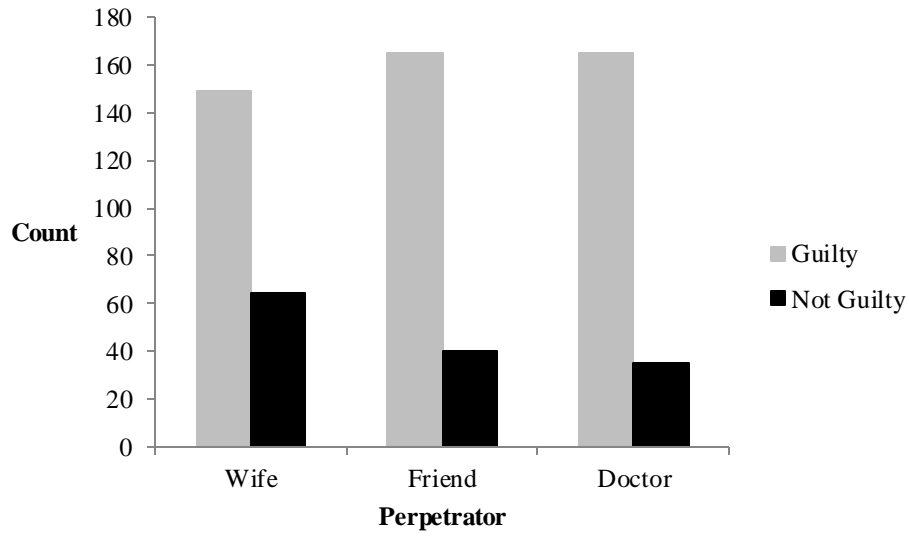


Figure 8. Frequencies of guilty/not guilty verdicts for each perpetrator.

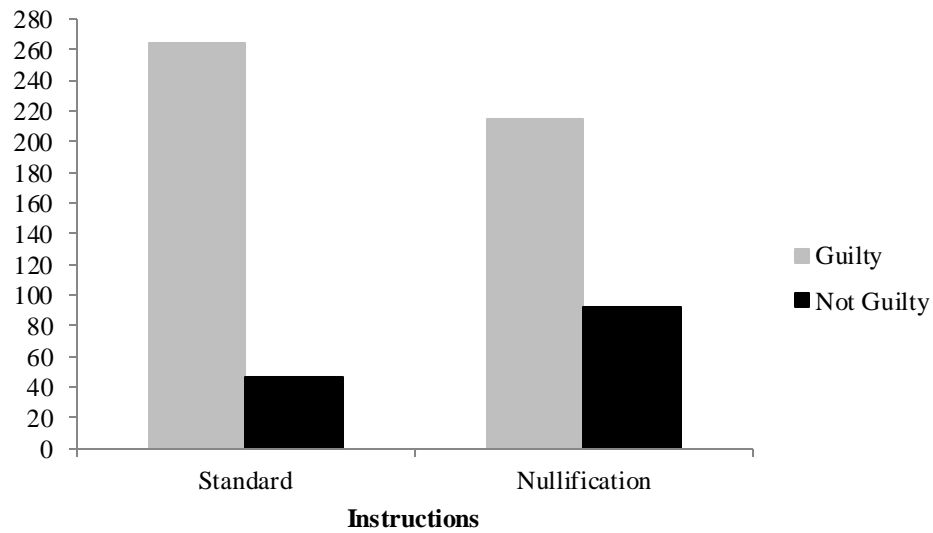


Figure 9. Frequencies of guilty/not guilty verdicts for standard and nullification instructions.

Appendix A

Study 1 Euthanasia Methods

- The individual is injected with a series of three drugs: Sodium thiopental to cause unconsciousness, pancuronium bromide to cause muscle paralysis, and potassium chloride to cause cardiac arrest and death.
- The individual is smothered from having a pillow held over the face. The flow of oxygen to cells is disrupted and lactic acid is built up in tissue and blood, eventually causing death.
- The individual is shot in the temple at point-blank range. The bullet penetrates the skull and bounces around, destroying the brain and killing the individual within a few seconds.
- The individual is shot in the chest. The bullet punctures a lung, causing them to compress and fill with blood due to hemorrhaging. The individual eventually dies from blood loss and respiratory failure.
- The individual is stabbed in the side of the neck, severing the carotid artery. The individual bleeds out and dies within a few seconds.
- The individual's face is submerged in a small bucket of water. Oxygen deprivation causes unconsciousness and the lungs begin to fill with water, causing death in a few minutes.
- The individual's throat is slit with a knife, causing the individual to bleed out and die within a few seconds.
- A heavy object is used to cave in the skull of the individual. Several strikes cause the individual to die.

- The individual is smothered from having a plastic bag held over the face. The flow of oxygen to cells is disrupted and lactic acid is built up in tissue and blood, eventually causing death.
- A wire is used to strangle the individual. The trachea is compressed, restricting the flow of oxygen and causing the individual to asphyxiate.
- The individual's body is set ablaze. The individual eventually receives third degree burns through all layers of the skin and dies from shock.
- The individual ingests potassium cyanide mixed with water. Seizures and cardiac arrest occur, which lead to death in a few seconds.
- The individual is electrocuted with 220 V. The heart begins to contract uncontrollably, eventually causing cardiac arrest and death.
- Carbon monoxide is released into the room, preventing oxygen from being absorbed into the lungs. The individual dies from suffocation in minutes.
- The individual's wrist is slit vertically with a blade. The individual bleeds out, leading to cardiac and death within a minute.
- The individual ingests an excessive amount of opioid painkiller medication. The individual experiences decreased consciousness, seizures, and death.
- The individual is stabbed in the chest, causing a lung to collapse. The individual dies from a combination of blood loss and blood filling the lung.
- The individual wears headphones that play 200 decibel sounds for a period of time. The soundwaves create an air embolism in the lungs that eventually reaches the heart and causes cardiac arrest.

Appendix B

Euthanasia Questionnaire Items

The following items, taken from Cohen et al. (2012), appeared after participants read the euthanasia methods (Study 1) or case vignettes (Study 2). Response options are on a 5-point Likert scale (*strongly agree, agree, neutral, disagree, strongly disagree*). Items are listed according to the factors they were associated with based on exploratory factor analysis.

Moral Factor

- 1) Everyone has the right to decide about their life and death.
- 2) The administration of life-ending drugs at the explicit request of a patient is acceptable for patients with a terminal disease with extreme uncontrollable pain or uncontrollable suffering.
- 3) If a terminally ill patient suffers unbearably and is not capable of making decisions on their own, the physician (together with the team of caregivers) should be able to administer life ending drugs.
- 4) Life-ending on request can be a part of good end-of-life care.

Pragmatic Factor

- 6) Consulting with a second physician is useful in every case of euthanasia request.
- 7) In order to give advice as a second physician in a euthanasia request, one has to have followed special training.

Excluded from analyses

- 5) In all circumstances, physicians should strive to preserve the life of their patients, even if patients ask to hasten their death.
- 8) Societal control over the practice of euthanasia is necessary.

The remaining items are taken from Roelands et al. (2015). Responses to these items are based on the same 5-point Likert scale as above. All items were translated from Dutch and the original wording appears in brackets.

- I find it acceptable for a doctor to perform euthanasia on a person of legal age. [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de persoon meerderjarig is.*]
- I find it acceptable for a doctor to perform euthanasia on a person who has an incurable disease or disability, with no hope of improvement. [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de persoon een ziekte of handicap heeft die ongeneeslijk is, zonder uitzicht op verbetering.*]
- I find it acceptable for a doctor to perform euthanasia on a person who is expected to die soon anyway (i.e., in a few months). [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de persoon binnen afzienbare tijd (binnen enkele maanden) zal overlijden.*]
- I find it acceptable for a doctor to perform euthanasia on a person in extreme pain. [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de persoon ernstige pijn heft.*]
- I find it acceptable for a doctor to perform euthanasia if the person has such serious physical limitations that he/she is no longer able to look after themselves and is dependent on the help of others. [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de persoon zodanige ernstige fysieke beperkingen heeft dat hij/zij niet meer in staat is om voor zichzelf te zorgen en aangewezen is op de hulp van anderen.*]
- I find it acceptable for a doctor perform euthanasia if the person's mind is clear (i.e., is able to assess his/her situation, understands certain information and can see the consequences of his/her decision) and is not affected by mental afflictions such as dementia. [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de persoon helder van geest is (dwz in staat is om zijn/haar situatie in te schatten, bepaalde informatie te begrijpen en de gevolgen van zijn/haar besluit kan overzien) en dus niet bij aangetast bewustzijn, zoals bij hersenmetastasen en dementie.*]
- I find it acceptable for a doctor to perform euthanasia if a close family member or partner agrees to the request of the person. [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de naaste familie of partner instemt met het verzoek van de persoon.*]

- I find it acceptable for a doctor to perform euthanasia if the doctor has sufficiently informed the patient about his situation and any other alternative solutions. [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de arts de persoon voldoende ingelicht heeft over zijn situatie en eventuele andere oplossingen.*]
- I find it acceptable for a doctor to perform euthanasia if the doctor has asked the opinion of another doctor. [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de arts de mening van een andere arts gevraagd heeft.*]
- I find it acceptable for a doctor to perform euthanasia if the person has asked to have his/her life terminated more than once. [*Ik vind het enkel aanvaardbaar dat een arts euthanasie uitvoert indien de persoon niet één keer, maar meermaals en uitdrukkelijk gevraagd heeft om zijn/haar leven te beëindigen.*]

Appendix C

Right-Wing Authoritarianism Scale

1. Our country will be great if we honor the ways of our forefathers, do what the authorities tell us to do, and get rid of the “rotten apples” who are ruining everything.
2. It is wonderful that young people can protest against anything they don’t like, and act however they wish nowadays.
3. It is always better to trust the judgment of the proper authorities in government and religion, than to listen to the noisy rabble-rousers in our society who are trying to create doubt in people’s minds.
4. People should pay *less* attention to the Bible and the other old traditional forms of religious guidance, and instead develop their own personal standards of what is moral and immoral.
5. What our country *really* needs, instead of more “civil rights”, is a good stiff dose of law and order.
6. Our country will be destroyed someday if we do not smash the perversions eating away at our moral fiber and traditional beliefs.
7. The sooner we get rid of the traditional family structure, where the father is the head of the family and the children are taught to obey authority automatically, the better. The old-fashioned way has a lot wrong with it.
8. There is nothing wrong with premarital sexual intercourse.
9. The facts on crime, sexual immorality, and the recent public disorders all show we have to crack down harder on deviant groups and troublemakers if we are going to save our moral standards and preserve law and order.
10. There is nothing immoral or sick in somebody’s being a homosexual.
11. It is important to fully protect the rights of radicals and deviants.
12. Obedience is the most important virtue children should learn.
13. There is no “one right way” to live your life; everybody has to create his own way.
14. Once our government leaders condemn the dangerous elements in our society, it will be the duty of every patriotic citizen to help stomp out the rot that is poisoning our country from within.
15. Government, judges and the police should never be allowed to censor books.

16. Some of the worst people in our country nowadays are those who do not respect our flag, our leaders, and the normal way things are supposed to be done.
17. In these troubled times laws have to be enforced without mercy, especially when dealing with the agitators and revolutionaries who are stirring things up.
18. Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.
19. Some young people get rebellious ideas, but as they get older, they ought to become more mature and forget such things.
20. There is nothing really wrong with a lot of the things people call "sins."
21. Everyone should have his own lifestyle, religious beliefs, and sexual preferences, even if it makes them different from everyone else.
22. The situation in our country is getting so serious, the strongest methods would be justified if they eliminated the troublemakers and got us back on our true path.
23. Authorities such as parents and our national leaders generally turn out to be right about things, and the radicals and protestors are almost always wrong.
24. A lot of our rules regarding modesty and sexual behavior are just customs which are not necessarily any better or holier than those which other people follow.
25. There is absolutely nothing wrong with nudist camps.
26. The real keys to the "good life" are obedience, discipline, and sticking to the straight and narrow.
27. We should treat protestors and radicals with open arms and open minds, since new ideas are the lifeblood of progressive change.
28. What our country really needs is a strong, determined leader who will crush evil, and take us back to our true path.
29. Students must be taught to challenge their parents' views, confront the authorities, and criticize the traditions of our society.
30. One reason we have so many troublemakers in our society nowadays is that parents and other authorities have forgotten that good old-fashioned physical punishment is still one of the best ways to make people behave properly.

Appendix D
Religiosity Measure

1. How religious are you?
2. How important is religion in your life?
3. How important is it for you – or would it be if you had children now – to send your children for religious or spiritual services or instructions?

Appendix E
Demographic Survey

Gender _____

Age _____

Race (select all that apply):

- Caucasian/White
- African American/Black
- Hispanic/Latino
- Asian/Pacific Islander
- Native American
- Arab
- Other

What is your religious affiliation?

- Catholic
- Protestant
- Jewish
- Muslim
- Hindu
- Buddhist
- Agnostic
- Atheist
- Other (please specify): _____

What is your country of origin?

What is your state/province of origin (if applicable)?

Appendix F
Informed Consent Document

The following informed consent document was used for both studies. Differences in wording are enclosed in brackets, with Study 1's wording appearing first and Study 2's wording appearing second.

Informed Consent
Researchers: Daniel Bell
Affiliation: Rochester Institute of Technology

You are being asked to participate in a research study on euthanasia. Please read this form and ensure you are sufficiently informed before agreeing to participate in the study.

The purpose of the study is to examine opinions on various methods of euthanasia. Approximately 100 [540] respondents from Amazon Mechanical Turk will be participating in this project.

[During the course of this study, you will be asked to read a series of narratives detailing euthanasia methods and then provide responses to each. You will also be asked to complete a few brief surveys./During the course of this study, you will be asked to read a brief case summary and provide a verdict as a mock juror. You will also be asked to explain your rationale as well as complete a few brief surveys.] Finally, you will be asked to complete a brief demographic questionnaire. The study should take no more than 15 minutes to complete.

Refusal to participate in the study will involve no penalty or loss of benefits to which you are otherwise entitled, and you may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Upon completing this study you will receive 1 dollar or the foreign equivalent of 1 dollar. You may only participate in this study once, and you may only receive credit once.

There are no known risks associated with participating in this study, although you will read potentially uncomfortable/unpleasant scenarios. In addition, there will be no known costs to you.

All information collected about you during the course of this study will be kept confidential and anonymous to the extent permitted by law. You will be identified in the research records by a code number so that your individual responses cannot be linked to you. Information that identifies you personally will not be released without your written permission. In addition to the researcher and the researcher's advisor, the Rochester Institute of Technology's Institutional Review Board, or federal agencies with appropriate regulatory oversight, may review your records and they may be released in response to an order from a court of law.

If you have any questions or concerns about this study, either now or in the future, you may contact Daniel Bell (djb6975@rit.edu) or Dr. John Edlund (jeegsh@rit.edu).

By clicking "I agree" below, you grant your consent to participate in the study being conducted by Daniel Bell. The procedures have been explained to you to your satisfaction. You understand that you may withdraw from this study at any time without penalty or loss of benefits. You certify that you are at least 18 years old.

Appendix G
Debriefing Form

The following debriefing statement will be used for both studies, with differences in wording for Studies 1 and 2.

Study 1:

Thank you for participating. The purpose of this study was to determine public opinions about various methods that could conceivably be used to commit euthanasia. The results from this study will be used to form materials for a future study. Please be aware that the descriptions you read were drafted for the purposes of this study and the people and situations described were fictional. Please do not discuss any details of this study with other potential participants, as this could compromise the results. If you have any questions or concerns about this study, please contact Daniel Bell (djb6975@rit.edu) or Dr. John Edlund (jeegsh@rit.edu).

Study 2:

The purpose of this study was to determine what factors in a euthanasia case would most likely lead jurors to nullify a case (i.e., acquit the defendant). It was hypothesized that participants would be more willing to acquit in cases that included less painful methods committed by a family member. Additionally, it was hypothesized that the presence of nullification instructions would increase participants' willingness to acquit the defendant. Please be aware that the case description you read was drafted for the purposes of this study and the people and situations described were fictional. Please do not discuss any details of this study with other potential participants, as this could compromise the results. If you have any questions or concerns about this study, please contact Daniel Bell (djb6975@rit.edu) or Dr. John Edlund (jeegsh@rit.edu).

Appendix H

Study 2 Case Vignette and Jury Instructions

On October 23, 2014, Mr. Martin Wilkinson, 76, was reported dead in the hospital by his [wife/friend/doctor], Sarah [Wilkinson/Hamlin], [75/35]. Reports indicate that Mr. Wilkinson had been on the sofa in his house watching TV while smoking a cigarette. He fell asleep with the lit cigarette, which started a fire that left him with third- and second-degree burns over 80% of his body. He was taken to the hospital and was bedridden for the two months prior to his death. He was in a great deal of pain and was not expected to survive more than three months. [Mrs./Dr. Wilkinson/Hamlin] has been accused of murdering her [husband/friend/patient] based on the eyewitness accounts of an orderly, Paul Sawyer, who was in the hallway outside. Autopsy reports indicate that he had been [injected with a lethal dose of potassium chloride (KCl)/smothered with a pillow/shot in the head]. [Mrs./Dr. Wilkinson/Hamlin] claims that she was simply trying to end her [friend's/husband's/patient's] suffering as he was in a great deal of pain and had requested that she euthanize him. The defendant, Mr. Wilkinson's [wife/friend/doctor] has been arrested on the charge of second-degree murder.

All participants will read the following instructions explaining presumption of innocence, burden of proof, reasonable doubt, and elements of second degree murder (www.nycourts.gov):

“Throughout these proceedings, the defendant is presumed to be innocent. As a result, you must find the defendant not guilty, unless, on the evidence presented at this trial, you conclude that the People have proven the defendant guilty beyond a reasonable doubt.

The defendant is not required to prove that he/she is not guilty. To the contrary, the People have the burden of proving the defendant guilty beyond a reasonable doubt. That means, before you can find the defendant guilty of a crime, the People must prove beyond a reasonable doubt every element of the crime including that the defendant is the person who committed that crime. The burden of proof never shifts from the People to the defendant.

The law uses the term, "proof beyond a reasonable doubt," to tell you how convincing the evidence of guilt must be to permit a verdict of guilty. A reasonable doubt is an honest doubt of the defendant's guilt for which a reason exists based upon the nature and quality of the evidence. Proof of guilt beyond a reasonable doubt is proof that leaves you so firmly convinced of the

defendant's guilt that you have no reasonable doubt of the existence of any element of the crime or of the defendant's identity as the person who committed the crime.

In order for you to find the defendant guilty of the crime of murder in the second degree, the People are required to prove, from all the evidence in the case, beyond a reasonable doubt, both of the following two elements:

1. That on or about October 23, 2014, the defendant, Sarah Wilkinson/Hamlin, caused the death of Martin Wilkinson.

2. That the defendant did so with the intent to cause the death of Martha Wilkinson”

Participants in the nullification instruction conditions will read the following instructions, taken from Horowitz, et al. (2006).

“While you must give respectful attention to the laws [applicable to this case], you have the final authority to decide whether or not to apply a given law to the acts of the defendant on trial. As [a juror], you represent the community and it is appropriate to bring into your deliberation the feelings of the community and your own feelings based on your conscience. You must respect the law, that is clear. However, regardless of your respect for the law nothing should stop you from acquitting the defendant if you feel the law, as applied to the fact situation in this case, would lead to an injustice.”

Participants in non-nullification conditions will read the following additional instructions, taken from Kerwin & Shaffer (1991).

“It is your duty to accept these instructions and to apply the law as it is given to you. You are not permitted to change the law, nor apply your own conception of what you think the law should be. In reaching your verdict, you must not be influenced by any consideration of sympathy or prejudice.”

Participants in the nullification instruction conditions will read the following instructions, taken from Horowitz, et al. (2006).

“While you must give respectful attention to the laws [applicable to this case], you have the final authority to decide whether or not to apply a given law to the acts of the defendant on trial. As [a juror], you represent the community and it is appropriate to bring into your deliberation the feelings of the community and your own feelings based on your conscience. You

must respect the law, that is clear. However, regardless of your respect for the law nothing should stop you from acquitting the defendant if you feel the law, as applied to the fact situation in this case, would lead to an injustice.”

Appendix I

Study 2 Manipulation Check and Questionnaire Items

1. What was Mr. Wilkinson doing before the incident that got him into the hospital?
2. What was Mr. Wilkinson being treated for in the hospital?
3. Who killed Mr. Wilkinson?
4. What method was used to kill him?
5. Who witnessed the killing?
6. Do you find the defendant guilty or not guilty?
7. What length of incarceration, in years, would you suggest for the defendant? Please give a number within a range of 5 to 25 years.
8. Please briefly explain your reasoning in your verdict.