

THE FACTORS AFFECTING PEOPLES' ATTITUDES & OPINIONS TOWARD
PHYSICIAN-ASSISTED SUICIDE: DO ECONOMIC IMPLICATIONS MATTER?

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Economics

Abstract

Empirical evidence has shown that legalizing physician-assisted suicide could result in real economic benefits. This study will test whether those economic implications have an effect on peoples' attitudes and opinions toward PAS by means of an OLS regression model measuring the determinants of those attitudes. It takes the previous research on the subject a step further by including two explanatory variables based on an individual's life experiences in addition to their demographic characteristics. Results indicate that along with some demographic characteristics, peoples' experience with loved ones who are terminally ill has positive correlation with their favorability toward the legalization of PAS. Furthermore, peoples' attitudes and opinions toward the legalization of PAS are much more dependent on ethical and personal factors than economics.

KEYWORDS: (physician-assisted suicide, OLS regression, economic implications)

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CHAPTER I

INTRODUCTION

On June 4, 1990, Jack Kevorkian assisted 54-year-old Janet Adkins in committing suicide, igniting a nationwide debate that lives to this day. Adkins was diagnosed with Alzheimer's disease the previous year, and responded to Kevorkian's newspaper advertisements for "death counseling." She was the first of at least 130 patients Kevorkian assisted in death. Adkins explained her plight in a handwritten note on the morning of her death:

I have decided for the following reason to take my own life. This is a decision taken in a normal state of mind and is fully considered. I have Alzheimer's disease and do not want to let it progress any further. I don't choose to put my family or myself through the agony of this terrible disease.¹

Following the public suicide, Kevorkian was charged with murder in the Michigan court of law. However, the case was dismissed on December 13, 1990 because at the time there were no laws regarding physician-assisted suicide in Michigan. Over the next decade, Kevorkian continued in assisting suicides and avoiding prosecution until the case of Thomas Youk. On September 17, 1998, Kevorkian videotaped himself delivering a lethal injection to Youk, marking the first time a patient did not carry out the process on his or her own. The videotape was aired on a *60 Minutes* broadcast on November 22 of the same year. On March 26, 1999 Kevorkian was charged with second-degree murder

¹Kevorkian, Jack. *Prescription--medicide :the goodness of planned death*. Buffalo, N.Y.: Prometheus Books, 1991.

and the delivery of a controlled substance, with the videotape as evidence. After a two-day trial in which he represented himself, Kevorkian was found guilty of second-degree homicide.

Jack Kevorkian's beliefs, explained in detail in his book Prescription – Medicide: The Goodness of Planned Death, have sparked a tremendous amount of conversation surrounding the question: Should physician-assisted suicide (PAS) be legalized in the United States? There are a number of factors to be considered when answering this question, including but not limited to ethical issues, economic impacts, and the profound effects legalization could have on our healthcare system. Members of the Kevorkian camp argue that PAS is a part of the new public health movement. "Proponents of the new public health movement, euthanasia, and PAS are concerned with redefining the role of patients and the doctor-patient relationship."² Members of the movement, along with certain British medical journals and the *New York Times*, generally shed Kevorkian's exploits in a positive light. However, most American medical journals, anti-Euthanasia groups, and the *Detroit News*, portrayed Kevorkian much more negatively.³ Certain journals provided fierce opposition to the man known as "Dr. Death." Writing for *American Scholar*, Paul R. McHugh exemplifies one of the harsher critiques of Kevorkian:

To me it looks like madness from every quarter. The patients are mad by definition in that they are suicidally depressed and demoralized; Dr. Kevorkian is "certifiable" in that his passions render him, as the state code specifies, "dangerous to others"; and the usually reliable people of Michigan are confused and anxious to the point of incoherence by terrors of choice that are everyday

² Siu, W. "Communities of interpretation: euthanasia and assisted suicide debate." *Critical Public Health* 20, no. 2 (2010): 169-199.

³ Ibid.

issues for doctors. These three disoriented parties have converged, provoking a local epidemic of premature death.⁴

Because Jack Kevorkian is the face of the pro-PAS movement in the United States of America, the debate surrounding his actions and ideals closely parallels the debate on PAS in more general terms. Since Kevorkian began assisting patients to commit suicide, there has been a great deal of legislation introduced in the U.S. PAS is now legal in three U.S. states: Oregon (via the Oregon Death with Dignity Act in 1994), Washington (via the Washington Death with Dignity Act in 2008), and Montana (via the Montana Supreme Court case *Baxter vs. Montana* in 2009). Furthermore, there is an ongoing effort to pass legislation in a number of other states. Given the nature of the legislative process for 50 U.S. states, the debate regarding physician-assisted suicide is certainly here to stay. And with such a wide range of perspectives on the issues Dr. Kevorkian and others present regarding PAS, there comes a great opportunity for research.

Recognizing why people feel the way they do about PAS and euthanasia is critical to understanding the arguments presented by both sides of the debate. The possible implications of discovering the variables that affect peoples' opinions are endless. Beginning in with Hammermesh and Soss in 1976⁵, research has continued to suggest that legalizing PAS could have profound economic affects; however, very little effort has been devoted to weigh how important the potential economic impact of legalizing PAS is for the general public. The best way to move forward is to conduct a study that will identify the variables determining how people think about PAS. Identifying these

⁴ McHugh, Paul R. "The Kevorkian epidemic." *American Scholar* 66, no. 1 (1997): 15.

⁵ Hamermesh, Daniel S., and Neal M. Soss. "An Economic Theory of Suicide." *Journal of Political Economy* 82, no. 1 (1974): pp. 83-98.

variables will lead to a discussion surrounding the importance of the economics behind physician-assisted suicide and euthanasia.

There has already been a great deal of research that has successfully identified several determinants. This thesis will summarize the findings of those researchers in an extensive literature review. This study will then build off of the literature by administering a unique survey, with the goals of quantifying each of the key determinants and identifying an experiential factor that has yet to be considered. In an analysis of the dataset gathered from the survey responses, the determinants of peoples' attitudes and opinions toward PAS will be quantified. Then a concluding chapter will discuss the implications of the study's findings and new directions that future researchers of PAS can take. The conclusions drawn in this chapter will focus on how the economic impacts of legalizing PAS play a role in peoples' attitude toward the issue.

To this point, the literature focuses on how various demographic factors affect attitudes and opinions of PAS. This study will include the experiences people have had with likely candidates for PAS (i.e. the elderly and terminally ill). While certain demographic factors have proven to be instrumental in the general public's attitude toward PAS, the reality is that there must be other variables that determine how people feel about the issue. Relying on that assumption, this study aims to bring those variables to light.

CHAPTER II

LITERATURE REVIEW

The Economics of PAS

The earliest studies involving physician-assisted suicide all seem to build off the work of Hammermesh and Soss¹ in 1976. Their work took a theoretical statement made by Arthur Schopenhauer and put it to the test. Schopenhauer claimed, “as soon as the terrors of life reach the point at which they outweigh the terrors of death, a man will put an end to his life.” In the article “An Economic Theory of Suicide,” Hammermesh and Soss use real data to quantify the point at which people will put an end to their lives. While the article considers suicide only in its traditional sense - as opposed to PAS – it prompted further researchers to tackle the subject, particularly in the field of economics.

More recent developments have yielded similar results to Hammermesh and Soss’ study, only now accounting for physician-assisted suicide. For a terminally ill person, there is also a point at which the benefits of euthanasia will outweigh the costs.² For example, when the amount of pain a patient is experiencing makes death a more attractive option than life, a terminally ill patient will prefer the option of euthanasia to the option of life.

¹ Hamermesh, Daniel S., and Neal M. Soss. "An Economic Theory of Suicide." *Journal of Political Economy* 82, no. 1 (1974): pp. 83-98.

² Chan, Leo, and Donald Lien. "The value of planned death." *Journal of Socio-economics* 39, no. 6 (2010): 692-695.

Using a theoretical model, Leo Chan calculated the demand for PAS by calculating the point at which any terminally ill individual will seek euthanasia.³ The ability to calculate the demand for PAS leads to the ability to affect the demand via policy changes. This is certainly true in the discussion of PAS. “Different policies, ranging from the amount of money spent on medical research to social and religious attitude, could affect the demand for euthanasia.”⁴ How both the healthcare policy and social and religious attitudes affect the demand for PAS have been studied extensively. These two aspects of the demand equation represent both the ethical and economic issues of the PAS debate. While researchers such as Chan have started to identify the variables that affect the demand equation for PAS, there is plenty of room to build on the existing literature.

In 1993, K.K. Fung began to tackle the macroeconomic implications of legalizing PAS.⁵ Examining the spiraling healthcare costs at the time, he proposed PAS as a possible solution to the dilemma. One of the major downsides to the economics of the healthcare system is the inability of healthcare providers to know whether or not the treatments they provide are based on need or simply the lack of a better alternative. Without any alternative, terminally ill patients have no incentives to forego costly but ineffective treatments.⁶ As a result, “expenditures on treatments that are ultimately

³ Ibid.

⁴ Ibid.

⁵ Fung, K. K. "Dying for Money: Overcoming Moral Hazard in Terminal Illnesses through Compensated Physician-Assisted Death." *American Journal of Economics and Sociology* 52, no. 3 (1993): pp. 275-288.

⁶ Ibid.

unsuccessful account for \$67 billion annually, about 12% of the US health care budget.”⁷ Furthermore, research has shown that regions providing more intensive treatment in the last six months of life do not gain any health benefits over regions providing less end of life care,⁸ suggesting that expensive treatments for terminally ill patients are largely ineffective. These gaping inefficiencies in the healthcare system call for better management of end of life care.

Studies have suggested that people generally prefer less intensive treatment to more intensive treatment in the last six months of life.⁹ Thus, if terminally ill patients were offered the choice of whether or not they would receive an expensive, potentially ineffective treatment, many would decline, resulting in huge societal gains. First, the patients would be getting the treatment they prefer, improving individual welfare. And second, by not administering treatments, health care expenditures are significantly reduced. Fung suggests taking the policy one step further by offering patients compensation for choosing death as opposed to intensive end of life treatment.¹⁰

To make incentives symmetric, terminal patients should be allowed to convert projected expenditures on futile treatments, and other entitlements, into death benefits if they choose physician-assisted death instead. If death can be voluntarily chosen, and can confer benefits to the still living, the sense of tragedy from death is lessened and the bond of intergenerational community is strengthened.¹¹

⁷ Byrne, Margaret M., and Peter Thompson. "Death and dignity: Terminal illness and the market for non-treatment." *Journal of Public Economics* 76, no. 2 (2000): 263-294.

⁸ Skinner, J. S., and J. E. Wennberg. *How much is enough? Efficiency and Medicare spending in the last six months of life* (1998).

⁹ Ibid.

¹⁰ Fung, 287.

¹¹ Ibid.

Fung's argument incorporates both the economic dilemma of an inefficient healthcare system and the ethical dilemma of suicide. The explanation behind his solution embodies the beliefs of the new health care movement. It gives the patient the right to choose his or her fate. However, there are inherent flaws in his argument. Offering an incentive for those who chose to die can easily be spun in another direction; terminally ill patients may feel that it is now their duty to die, since death would have a measureable positive impact on the lives of their families. Fung suggests that while this may be true, "these are not sufficient reasons for inaction since the world is full of slippery slopes."¹²

The economic benefits of legalizing PAS are significant from a theoretical standpoint; however, more research must be done on the macroeconomic effects of such a policy before it can be implemented. And while it has been shown that healthcare provider compensation plans for choosing to die can also be economically and ethically beneficial, there is not enough empirical evidence at this time to incur the risk behind such a scheme. Small-scale field trials of a compensation plan would provide invaluable evidence of the risks and potential benefits.¹³

Attitudes and Opinions towards PAS

Despite the evident economic benefits of physician-assisted suicide, it still faces great opposition. Much of the opposition comes from people and organizations that find PSA morally wrong. According to the May 10-13, 2007 Gallup poll, 44% of Americans

¹² Ibid.

¹³ Byrne, 284.

say PAS is morally wrong.¹⁴ Researchers have conducted a variety of studies that attempt to identify why people feel one way or the other. Variables such as religiosity, age, race/ethnicity, and occupation have already been linked to peoples' attitude toward PAS. This thesis acknowledges that all of these factors do indeed affect peoples' attitude, but suggests there are other significant variables as well. It will also address the incongruities present in the economic discussion of euthanasia. If the legalization of PAS has such clear and present economic benefits, why are certain people opposed to such a policy? Are the economic implications taking a backseat to ethical or religious factors?

Physician-assisted suicide is defined as "the prescription or supplying of drugs with the explicit intention of enabling the patient to end his or her life by an overdose."¹⁵ The moral dilemma of PAS dates back to antiquity. It was not uncommon for the elderly, sick, and dying in ancient Greece to poison themselves with hemlock in search of a "good death."¹⁶ In the first century BC, sick and elderly Greeks would ceremoniously consume poison at annual banquets held to celebrate their lives rather mourn their deaths. The ancient Romans also sanctioned voluntary suicide for the elderly or anyone suffering from a painful or terminal disease. However, the rise of Christianity put an end to socially acceptable suicide. "Saint Thomas Aquinas' philosophy remains the underpinning of Roman Catholic dogma today. He believed that only God, who created

¹⁴ "Public Divided Over Moral Acceptability of Doctor-Assisted Suicide " [cited 2012]. Available from <http://www.gallup.com/poll/27727/public-divided-over-moral-acceptability-doctor-assisted-suicide.aspx>.

¹⁵ Siu, W. "Communities of interpretation: euthanasia and assisted suicide debate." *Critical Public Health* 20, no. 2 (2010): 169-199.

¹⁶ Fontana, Joyce S. "Rational Suicide in the Terminally Ill." *Journal of Nursing Scholarship* 34, no. 2 (2002): 147-151.

life, has the right to end it.”¹⁷ Despite the authority of the Christian church, voluntary suicides continued throughout the Middle Ages, Renaissance period, and the Enlightenment. “One cannot overestimate, however, the influence of the church in maintaining the sinful nature of suicide that kept it from being openly accepted as it was in ancient times.”¹⁸

Only recently has PAS made a revival as a socially (and legally) acceptable means of ending one’s life. In the past two decades, physician-assisted suicide has been legalized in several jurisdictions. Belgium, Luxembourg, the Netherlands, and Switzerland have all passed laws to legalize PAS, although the laws are often accompanied with various restrictions. Oregon, Washington, and Montana’s statutes also include substantial barriers to a patient’s eligibility for PAS. However, the recent onslaught of legislation legalizing PAS domestically and abroad proves that the new public health movement’s philosophy on patient autonomy is changing the way people think about the morality of suicide. Nevertheless, organizations like the Christian church continue to view assisted suicide as morally wrong.

Religious views undoubtedly affect attitudes and opinions on physician-assisted suicide and terminal palliative care. Palliative care is defined as “treatment aimed at controlling the symptoms of a terminal illness, without addressing the underlying cause of the illness.”¹⁹ Studies have recently been conducted using sample populations of both doctors and nurses that show a strong correlation between religion and attitude toward

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Burdette, Amy M., Terrence D. Hill, and Benjamin E. Moulton. "Religion and Attitudes toward Physician-Assisted Suicide and Terminal Palliative Care." *Journal for the Scientific Study of Religion* 44, no. 1 (2005): pp. 79-93.

PAS. A survey of 3,733 medical practitioners in the UK revealed a great deal about how practicing medicine affects doctor's attitudes, but also showed that religion plays a major role independent of all other variables.²⁰ In a study of nurses' attitudes towards euthanasia and physician-assisted suicide, Gielen, van den Branden, and Broeckaert found that "nurses' attitudes towards euthanasia and physician assisted suicide are influenced by religion and world view. Attributing more importance to religion also seems to make agreement with euthanasia and physician assisted suicide less likely."²¹ The article cites a number of studies prior to 2009 that yield similar results. However, the authors claim that further research must be conducted before the findings of the prior studies can be considered factual. They conclude that there is an urgent need for "a more elaborate analysis of the influence of religion and world view on nurses' attitudes to end-of-life decisions in general and euthanasia and physician assisted suicide in general."²² Furthermore, they suggest that a study examining which religious doctrines have the greatest impact on attitudes to euthanasia and PAS. This would be an interesting topic for a researcher with a wealth of religious knowledge.

In 2011, Burdette, Hill, and Moulton went a step further by attempting to explain the variations in how religious differences affect attitudes toward PAS and terminal palliative care.²³ Rather than focusing solely on how religious a person is, their study factors which religion the subjects believe in (similar to examining which particular

²⁰ Seale, C. "Legalisation of euthanasia or physician-assisted suicide: survey of doctors' attitudes." *Palliative medicine* 23, no. 3 (2009): 205-212.

²¹ Gielen, Joris, den Branden van, and Bert Broeckaert. "Religion and Nurses' Attitudes to Euthanasia and Physician Assisted Suicide." *Nursing ethics* 16, no. 3 (2009): 303-318.

²² Ibid.

²³ Burdette, 80.

religious doctrines a subject believes in). One of the variations between certain religions is the distinction between those who prefer the autonomy to decide between life and death and those who believe in the absolute dominion of God in such matters. Many of the more liberal Protestant groups spearhead the argument that “God has granted humanity the right of personal choice and that this authority must extend to matters of life and death.”²⁴ On the other end of the religious spectrum, most Catholics and more conservative Protestants oppose PAS on the grounds that God alone has the power to decide who lives and who dies. Since Burdette, Hill, and Moulton attribute the differences between conservative Protestants and liberal Protestants in part by each individual’s church attendance, their differences of opinion could be attributed to how religious each group of people is, as opposed to what their particular religious beliefs are or which religious doctrines they abide by. The authors of the study recognize this fact, and suggest that church attendance and/or strength of affiliation may be a more influential variable than differences in religious beliefs. This thesis will attempt to include both the religion to which respondents belong and their strength of affiliation as variables affecting attitudes toward PAS.

Similar to religiosity is the idea of person’s “worldview.” Worldview is another variable that has been linked to PAS. The biggest challenge in including this variable in a quantitative study is exactly how to quantify an individual’s worldview. A 2008 study attempted to encompass worldview using a concept called “Zenoism” – interpreting a

²⁴ Ibid.

single misfortune as a sign of cosmic proportion as Zeno the Stoic did.²⁵ While the study yielded some interesting results regarding how both religiosity and zenoism impact attitudes towards PAS (nonreligious respondents were more generally favorable to PAS than religious respondents and that the tendency to “zenoize” also made respondents more favorable towards PAS), how much someone tends to “zenoize” is not a very accurate depiction of an individual’s complete worldview. Defining and quantifying worldview is a separate research project in itself, and will not be included in this thesis. However, Kaplan does compare an individual’s worldview with their religious beliefs.²⁶ An individual’s political views can also suggest how they view the world. The inclusion of religion and political party affiliation as independent variables in this study will hopefully be somewhat representative of a separate worldview variable.

Other demographic variables also influence the public’s attitudes and opinions of PAS. One of the factors playing a role in determining who is likely to favor PAS is ethnicity. For example, among older (aged 60 to 89) populations in San Antonio, Texas, 52.7% of Mexican-Americans reported agreement with PAS compared to just 33.7% of non-Hispanic whites.²⁷ Interestingly, age seems to be a more significant factor among the older Mexican-American population, while religiosity plays a stronger role among the older non-Hispanic white population. The article that published these findings is the final

²⁵ Kaplan, K. J., N. Dodge, I. Wallrabenstein, K. Theil, L. Ficker, P. Laird, M. Folk, J. Smith, L. Goodman, and M. Shchesyuk. "Zenoism, Depression and Attitudes Toward Suicide and Physician-Assisted Suicide: the Moderating Effects of Religiosity and Gender." *Ethics & Medicine: An International Journal of Bioethics* 24, no. 3 (2008): 167-187.

²⁶ Ibid.

²⁷ Espino, David V., R. L. Macias, Robert C. Wood, Johanna Becho, Melissa Talamantes, M. R. Finley, Arthur E. Hernandez, and Rubén Martínez. "Physician-Assisted Suicide Attitudes of Older Mexican-American and Non-Hispanic White Adults: Does Ethnicity Make a Difference?" *Journal of the American Geriatrics Society* 58, no. 7 (2010): 1370-1375.

product of a very focused study examining a very specific population. The scope of the study certainly leaves something to be desired. “Larger, more-generalizable studies should be conducted to confirm the attitudinal patterns that have been identified in (the study).”²⁸ Efforts have been made to prove the attitudinal patterns on a greater scale. This thesis will also survey a broader population to gather its own data.

Similar studies have been conducted on populations in Sweden, California, Michigan, and Vermont. Each study offers its own unique method and subsequent data set, but they all share the goal of uncovering what factors determine the way people think about PAS. Religion aside, these studies examine how peoples’ age, occupation, political party affiliation, socioeconomic status, race, sex, and education affect their opinions regarding PAS. While each study focused on a unique location (either a single state in the U.S. or a single country), three of the four also focused on a unique population within their respective regions.

Clark and Liebig’s California-based study examined the attitudes of elderly Californians.²⁹ The authors use the elderly as their sample population because, among other reasons, they “have a unique claim to an ethical, unobstructed suicide that is based on the ‘developmental autonomy’ that stems from their experience and wisdom.”³⁰ Due to their developmental autonomy, the views of the elderly certainly differ from those of the general public; nevertheless, the findings of the study are still noteworthy. Using public opinion polls and a survey distributed one week prior to the November 1992 vote

²⁸ Ibid.

²⁹ Clark, Nina, and Phoebe S. Liebig. "The Politics of Physician-Assisted Death: California's Proposition 161 and Attitudes of the Elderly." *Politics and the Life Sciences* 15, no. 2 (1996): pp. 273-280.

³⁰ Ibid.

on Proposition 161 (the California Death with Dignity Act which was ultimately defeated), the study examined how gender, political party affiliation, level of education, and religion affected the way the elderly in California voted on the measure.³¹ With 59% of Democrats in favor of Proposition 161, compared to just 41% of Republicans, there is significant evidence that party identification has an affect on one's favorability of PAS. 57% of males that were polled were for Proposition 161, compared to 51% of females, but the relationship between gender and attitude toward PAS is considered insignificant when put to a chi-squared test. In the analysis of level of education and voting preference, significant results emerged. The more educated a respondent was, the more likely they were to be in favor of Proposition 161. Not surprisingly, the public opinion poll and survey data also showed significant evidence that religion is related to whether or not individuals supported PAS.³² Some of the more telling results, according to Clark and Liebig, are as follows:

- All seven Catholic respondents were against Proposition 161;
- A plurality of members of other Christian denominations supported the measure;
- Jewish members of the sample were overwhelmingly in favor of the measure;
- Forty-four individuals fell into the "undeclared" category, indicating either that they did not follow any religion (24) or that they did not reply to this question (20). Of those persons, 27 (62%) favored Proposition 161, eight (18%) were opposed, and eight (18%) were undecided.³³

The fact that Clark and Liebig's study found significant correlations between favorability of Proposition 161 and three demographic variables - religion, party identification, and level of education – will be considered in the hypotheses made in this thesis. However, the results of Clark and Liebig's study are not expected to match the results drawn in this

³¹ Ibid.

³² Ibid.

³³ Ibid.

thesis for a number of reasons. First, the target demographic of strictly the elderly in California is not representative of the population that will be used in this thesis. Second, while the study attempts to “measure individual attitudes and beliefs regarding active euthanasia,”³⁴ it is really measuring the attitudes and beliefs regarding Proposition 161 in California. Follow-up conversations with some respondents “revealed a general dissatisfaction with Proposition 161 and the way in which it was worded, even among those supporting the idea of aid-in-dying.”³⁵ Therefore, individual attitudes towards PAS often differed from individual attitudes towards Proposition 161. This thesis will eliminate the discrepancy between attitudes towards PAS in general and attitudes towards a specific proposition or statute by gathering data specifically related to a more universal interpretation of PAS. It will also include the age of respondents as an additional variable, since as Clark and Liebig suggest, populations such as the elderly may have a different opinion than younger individuals.³⁶

The article “Attitudes toward Physician-Assisted Suicide among Physicians in Vermont” by Craig et al. is the result of another study limited by the demographics of the studied population.³⁷ Craig et al. administered a cross-sectional mailing survey to 2,770 physicians licensed by the state of Vermont, of which 1,052 responded.³⁸ Unlike Clark and Liebig’s study, the questionnaire focused more on variables that apply specifically to

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid.

³⁷ Craig, Alexa, Beth Cronin, William Eward, James Metz, Logan Murray, Gail Rose, Eric Suess, and Maria E. Vergara. "Attitudes toward Physician-Assisted Suicide among Physicians in Vermont." *Journal of medical ethics* 33, no. 7 (2007): pp. 400-403.

³⁸ Ibid.

licensed physicians than to the general population. Variables such as whether or not the individual cared for patients through the end of life, whether or not the individual was currently practicing medicine, and what kind of patient care the individual provided were included in the study.³⁹ While some of these variables and their relationship to attitudes toward PAS were found to be significant, they do not offer much insight into the attitudes of a broader population, which is the goal of this thesis.

The study did include two demographic variables that are relevant to this thesis: age and gender. “Retired physicians were more likely to favour legalisation of PAS than their practising counterparts (54% vs. 37%),”⁴⁰ but that was not indicative of the relationship between age and attitude toward PAS. “The mean age of physicians was not significantly different among those with differing opinions on the legalisation of PAS.”⁴¹ In contrast, opinions on the legalization of PAS were affected by respondent gender. “Male physicians were more likely to favour legalisation (42% males vs. 34% females), whereas female physicians were more likely to be ‘undecided’ (23% females vs. 14% males).”⁴²

The relationship between a physician’s gender and their attitudes toward the legalization of PAS in Vermont differs from the relationship between the gender of the elderly in California and their attitudes towards Proposition 161, as seen in Clark and Liebig’s study.⁴³ In both cases, more male respondents were in favor of legalizing PAS

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Clark, 278.

and Proposition 161 respectively; however, only in Craig et al.'s study was the discrepancy considered significant.⁴⁴ An additional study found that "on the issue of PAS, similar to the abortion issue, slightly higher percentages of women than men are opposed."⁴⁵ Due to the differences in the findings of each study, it will be difficult to predict whether or not gender will be a significant variable when surveying another population.

Helgesson et al. (2009) conducted another study that examined licensed physicians' attitudes and opinions toward PAS.⁴⁶ Their study distributed two questionnaires: one to Swedish physicians and another to a sample of the Swedish population. The aim of both questionnaires was to gather qualitative data in order to explore how the two populations think about PAS.⁴⁷ The data was categorized into responses that represented pro-PAS arguments and those that represented "con" arguments. Helgesson et al. then went on to identify some general conclusions from the responses. The findings showed that:

Religious views seem to have little influence on Swedish attitudes towards PAS. The reasoning found in our questionnaires centres on patient autonomy, pain and suffering, professional roles and responsibilities, risks, and trust in physicians and health care in general. In addition, self-interest is reflected in comments from the respondents.⁴⁸

⁴⁴ Craig, 401.

⁴⁵ Strate, John, Timothy Kiska, and Marvin Zalman. "Who Favors Legalizing Physician-Assisted Suicide? The Vote on Michigan's Proposal B." *Politics and the Life Sciences* 20, no. 2 (2001): pp. 155-163.

⁴⁶ Helgesson, Gert, Anna Lindblad, Hans Thulesius, and Niels Lynøe. "Reasoning about physician-assisted suicide: analysis of comments by physicians and the Swedish general public." *Clinical Ethics* 4, no. 1 (2009): 19-25.

⁴⁷ Ibid.

⁴⁸ Ibid.

The fact that religious views were not identified as a prevalent factor in the way Swedish people felt about PAS is striking because so many other studies (as previously identified) have shown a strong relationship between religion and attitudes toward PAS. This could be explained by a cultural difference between the Swedish population and American populations (as studied by Burdette in 2005⁴⁹ and Kaplan in 2008⁵⁰) or by the difference between including a religious variable in a quantitative study and conducting a qualitative study in which respondents explain why they feel the way they do (as is the case with Helgesson et al.'s 2009 study). Therefore, while this thesis will primarily be a quantitative study, there will be survey questions that explore why people feel the way they do about PAS. Hopefully the responses to those questions will clear up the discrepancy in the findings of Helgesson et al.⁵¹ and the domestic American studies of Burdette⁵² and Kaplan.⁵³ Open-ended questions will also provide greater general insight into peoples' attitudes and opinions toward PAS.

Although Helgesson et al. conducted a qualitative study, their questionnaire did include a gender variable.⁵⁴ Unfortunately the subsequent article that was written did not elaborate on any results stemming from gender or the relationship between gender and attitudes and opinions regarding PAS. The study did include one quantitative variable that could have implications for this thesis. "The responses to the questionnaires show a

⁴⁹ Burdette, 87.

⁵⁰ Kaplan, 179.

⁵¹ Helgesson, 24.

⁵² Burdette, 87.

⁵³ Kaplan, 179.

⁵⁴ Helgesson, 21.

considerable difference between physicians and the public in their attitudes to PAS. While 72% of the general population respondents are in favour of PAS, 34% of the physicians share that conviction.”⁵⁵ The huge variation between physicians and the general Swedish population suggests that an individual’s occupation could have a significant impact on his/her beliefs regarding PAS. Since quantifying or categorizing an individual’s occupation would be a challenging task, the surveys distributed for this thesis will incorporate whether or not a respondent is a licensed physician by differentiating between an MD and another professional degree when asking what level of education the individual has completed. Since Helgesson et al. found that physicians are much less likely than the general population to support the legalization of PAS in Sweden,⁵⁶ while Clark and Liebig found that the more educated an individual is, the more likely they are to favor PAS,⁵⁷ it is important to separate those with professional degrees in medicine from other highly educated individuals.

All the studies summarized thus far in the review of the literature on PAS have examined specific populations (i.e. the elderly or physicians) or individual variables (i.e. race or religion). Strate, Kiska, and Zalman’s article “Who Favors Legalizing Physician-Assisted Suicide? The Vote on Michigan’s Proposal B” takes a multitude of variables into account while examining the general population of Michigan as opposed to one target demographic.⁵⁸ For that reason, the framework of this thesis will mirror their study more closely than any others. The population in Strate, Kiska, and Zalman’s study is

⁵⁵ Ibid.

⁵⁶ Ibid.

⁵⁷ Clark, 278.

⁵⁸ Strate, 157.

limited to the state of Michigan, whereas the population in my thesis will incorporate individuals from all over the United States. However, this thesis will include all seven of the “personal characteristics” analyzed in their study in some form. Strate, Kiska, and Zalman calculated how party identification, church attendance, education, household income, race, age, and sex affected Michigan citizens’ votes on Proposal B at the November 1998 general election (The Michigan Legalization of Lethal Medication to Terminally Ill, also known as Proposal B, was a statute proposed on the November 3, 1998 Michigan election ballot seeking to legalize the prescription of lethal doses of medication to the terminally ill that was ultimately defeated 71.1% to 28.9%).⁵⁹ The bivariate analysis of the various demographic characteristics and the Proposal B vote confirmed the hypotheses that they would find “positive correlations between Democratic identification, income, education, and support for PAS.”⁶⁰ The analysis also showed negative correlations between support for PAS and Republican identification, age, being black, and being a woman, as anticipated.⁶¹ However, the correlations for race, age, and sex with the vote on Proposal B were not very significant. In summary:

The person with the highest probability (.80) of voting ‘yes’ on Proposal B was a Democrat who had no religious affiliation, held an advanced degree, and had a household income of \$100,000 or greater. The person with the lowest probability (.05) of voting ‘yes’ on Proposal B was a Republican who attended church every week, had eight grades or less of education, and had a household income less than \$20,000.⁶²

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Ibid.

Strate, Kiska, and Zalman expect that similar results would be found in states other than Michigan.⁶³ This thesis hopes to put that theory to the test by expanding the sample population across state lines.

This thesis also hopes to identify another variable that has yet to be discussed. If political party identification, religiosity, level of education, and household income are the only factors indicative of an individual's attitude toward PAS, then theoretically Strate, Kiska, and Zalman should have found that 100% of Democrats holding an advanced degree, with a household income of \$100,000 or greater, and no religious affiliation supported Proposal B. Instead, there was only an 80% chance that someone with those characteristics voted yes, indicating there are other determinants at play.

One determinant that the literature has not considered is an experiential factor. That is, *how do an individual's experiences in life affect their attitudes and opinions of PAS?* Some research has been conducted on physician populations, and how their experience or specific practices in medicine affect their attitudes and opinions toward PAS. Seale (2009) found that "opposition is particularly strong amongst palliative medicine doctors and somewhat strong amongst care of elderly specialists" in his study of doctors' attitudes towards legalizing PAS in the United Kingdom.⁶⁴ The results (see Figure 2.1) clearly illustrate that palliative care specialists (labeled "Palliative %") are more opposed to the legalization of PAS than all other physicians. Also, physicians that

⁶³ Ibid.

⁶⁴ Seale, 209.

specialize in the care of the elderly (labeled “Elderly %”) make up the group with the second greatest opposition to legalizing PAS.⁶⁵

FIGURE 2.1

SEALE’S ANALYSIS OF “MEDICAL OPINION ABOUT ASSISTED DYING,
BY SPECIALTY”

	Palliative %	Elderly %	Neurology %	GP %	Other %
1. First, a person with an incurable and a painful illness, from which they will die - for example, someone dying of cancer. Do you think that, if they ask for it, a doctor should ever be allowed by law to end their life or not?					
Definitely should not be allowed	73.4	46.9	38.5	36.5	32.2
Probably should not be allowed	17.5	24.9	29.9	32.3	28.5
Probably should be allowed	6.5	21.4	23	23.7	29.7
Definitely should be allowed	2.6	6.8	8.6	8.5	9.6
2. And do you think that, if this person asks for it, a doctor should ever be allowed by law to give them lethal medication that will allow the person to take their own life?					
Definitely should not be allowed	63.2	47.6	36.3	35.1	34.7
Probably should not be allowed	23.1	25.2	29.7	29.8	25.8
Probably should be allowed	11.4	21.2	25.3	27.7	30.7
Definitely should be allowed	2.3	6	8.8	7.5	8.8
3. Now, how about a person with an incurable and a painful illness, from which they will not die. Do you think that, if they ask for it, a doctor should ever be allowed to end their life, or not?					
Definitely should not be allowed	81.8	59.6	53.2	48.6	47.2
Probably should not be allowed	12.3	27.8	34.9	33.2	31.7
Probably should be allowed	3.6	8.8	9.7	14.9	17.2
Definitely should be allowed	2.3	3.8	2.2	3.3	3.9
4. And do you think that, if this person asks for it, a doctor should ever be allowed by law to give them lethal medication that will allow the person to take their own life?					
Definitely should not be allowed	72.6	58.7	49.2	45.5	47.2
Probably should not be allowed	18.9	27.2	34.6	31.9	29.4
Probably should be allowed	6.2	10.6	12.4	18.4	19.3
Definitely should be allowed	2.3	3.5	3.8	4.2	4.2

66

The results of Seale’s study suggest that the more contact doctors have with terminally ill patients, the less likely they are to favor physician-assisted suicide. The

⁶⁵ Ibid.

⁶⁶ Ibid.

results of Craig et al.'s study share a similar outlook: "Physicians who did not care for patients through the end of life were significantly more likely to hold the opinion that PAS should be legalised (48%), whereas physicians who did care for patients with terminal illness (33%) are less likely to hold the opinion that PAS should be legalised."⁶⁷

However, before hypothesizing that contact with the terminally ill will have the same relationship with attitudes toward PAS for the layperson as it does for physicians, it is important to consider the rationale behind physicians' attitudes toward PAS and how it differs from that of the general public. 176 of the doctors who responded to the questionnaire in Seale's study "wrote qualitative comments about a policy of allowing medically assisted dying."⁶⁸ Of the 176 who submitted qualitative comments, 31% were in favor of such a policy and 36% were opposed to it. Of those in favor, 27% "made comments about the need for nonmedical people to carry out euthanasia or assisted suicide or for individual doctors to have a right to opt out."⁶⁹ Of those opposed, 14% "were concerned about the involvement of doctors in such activities."⁷⁰ Clearly many physicians have concerns about having to personally participate in assisting suicide themselves if PAS were to be legalized. Such concerns could certainly affect the attitudes and opinions of physicians. Therefore, the correlation between contact with patients in palliative care and attitudes toward PAS is likely very different for doctors than it is for the layperson. More research needs to be conducted to explore the relationship between contact with the terminally ill and attitudes toward PAS amongst the

⁶⁷ Craig, 401.

⁶⁸ Seale, 208.

⁶⁹ Ibid.

⁷⁰ Ibid.

general public. This thesis will attempt to quantify that relationship in addition to the relationships between certain demographic factors and attitudes toward PAS.

Hypotheses

The demographic factors included in this thesis will be gender, age, level of education, household income, marital status, political views, religious affiliation, strength of religious affiliation, and race. This thesis will also analyze two experiential factors and their relationship to peoples' attitudes and opinions toward PAS: whether or not individuals have experienced contact with a loved one in palliative care and whether or not individuals have visited a loved one in a nursing home. Before hypothesizing how these variables will interact with an individual's attitude toward PAS, Figure 2.2 illustrates the correlations shown in prior research. The potential determinants affecting an individual's attitude toward PAS serve as the labels for each column of the table, and each row illustrates the correlation certain studies have proven or implied between those determinants and people's favorability toward PAS (↑ indicates a positive correlation, ↓ indicates a negative correlation, "none" indicates no significant correlation, and N/A indicates that that particular study did not consider the corresponding factor).

FIGURE 2.2

RELATIONSHIPS BETWEEN ATTITUDE TOWARD PAS AND ITS DETERMINANTS IN THE EXISTING LITERATURE

Researchers	Age	Education	Income	Religiosity
Strate, Kiska, and Zalman	none	↑	↑	↓
Helgesson et al.	N/A	N/A	N/A	none
Craig et al.	none	N/A	N/A	N/A
Clark and Liebig	N/A	↑	N/A	↑

Based primarily on Strate, Kiska, and Zalman's assertion that they expect "similar alignments (to their own results) are likely to occur in other states that have the initiative process if PAS should reach their ballot,"⁷¹ many of the research hypotheses for this thesis are aligned to the findings of their study. The expectations for the results of this thesis are as follows (each hypothesis refers to the sample population for this study, which is a convenience sample limited to all individuals aged 18 or older in the United States):

- Level of education is positively correlated with favorability towards legalizing PAS.
- Household income is positively correlated with favorability towards legalizing PAS.
- Liberal and/or Democratic political views are positively correlated with favorability towards legalizing PAS.
- Conservative and/or Republican political views are negatively correlated with favorability towards legalizing PAS.
- Strength of religious affiliation is negatively correlated with favorability towards legalizing PAS.
- There is no significant correlation between age and favorability towards legalizing PAS.
- There is no significant correlation between gender and favorability towards legalizing PAS.
- There is no significant correlation between race and favorability towards legalizing PAS.
- There is no significant correlation between marital status and favorability towards legalizing PAS. However, since there has not been much research conducted on this relationship, it could be interesting to examine.
- Being Catholic is negatively correlated with favorability towards legalizing PAS.
- Being Jewish is positively correlated with favorability towards PAS.
- Having the experience of being in contact with a loved one who is terminally ill is positively correlated with favorability towards PAS.
- Having the experience of visiting a loved one in a nursing home is positively correlated with favorability towards PAS.

Analysis of the survey data will also include multivariate analysis, which could offer some more insight that was not anticipated by the hypotheses.

⁷¹ Strate, 161.

The expectation is that the data analysis will culminate in a complete regression equation modeling how each variable affects an individual's favorability towards PAS.

The structure of such an equation will be explained in the Chapter III.

CHAPTER III

RESEARCH METHODOLOGY

The Survey Instrument

This chapter will describe in detail the survey used to compile the dataset, examining the inclusion of each survey question individually. It will also discuss the sampling method, and the pros and cons of taking a convenience sample. The chapter will go on to justify the chosen time frame of the study, and lastly provide an overview of the techniques the study will employ to analyze the data.

The dataset in this study was compiled by means of a survey instrument. The goal of the survey was to collect all the demographic, experiential, and attitudinal information necessary for this study from as many respondents as possible within the target population (everyone over the age of 18 in the United States). The survey contains 17 questions, each serving a specific purpose. The survey questions can be seen in their entirety in Appendix A.

After requiring each respondent's consent to begin the survey, they are asked nine general demographic questions. Several of these questions were designed in accordance with Espino et al.'s survey instrument, which was shared by Johanna Becho (one of the study's co-authors).¹ While Espino et al.'s respondents completed the survey in writing,

¹ Espino, David V., R. L. Macias, Robert C. Wood, Johanna Becho, Melissa Talamantes, M. R. Finley, Arthur E. Hernandez, and Rubén Martínez. "Physician-Assisted Suicide Attitudes of Older Mexican-American and Non-Hispanic White Adults: Does Ethnicity Make a Difference?" *Journal of the American Geriatrics Society* 58, no. 7 (2010): 1370-1375.

and the survey respondents for this study did so online, some of the demographic questions remain textually unaltered. The first question regarding gender is kept as simple as possible, a defining principle throughout Espino et al.'s survey questions. The open-ended space in regards to age allows the respondent to give an up-to-date response of their age in years. The remainder of the demographic questions are slightly revised versions of Espino et al.'s questions and answers. To gather data on the highest level of education the subjects have garnered, there is a drop-down window with nine options for respondents to choose from (ranging from "less than high school" to professional degrees). Rather than offering a general "professional degree" category, there is a separate option for having received a JD and having received an MD. This way medical professionals can be separated from all other respondents since they may have very different motivations for feeling the way they do about the legality of PAS, as suggested by Seale.² Another drop-down window asks for the respondents' household income, with seven options ranging from less than \$20,000 to greater than \$1,000,000. ">\$1,000,000" is included as the greatest possible category to distinguish the wealthiest individuals from everybody else. The question regarding marital status is taken directly from Espino et al.'s survey, but eliminates the option of "cohabitating" because that is not a formal status associated with marriage. Both questions of religion (the first asking which religion respondents belong to and the second asking how religion they believe they are) are very similar to those asked by Espino et al. The question of race/ethnicity is a significantly revised version of Espino et al.'s because they offered a wide range of responses, which diluted the simplicity of the survey. The final demographic question asks for the

² Seale, C. "Legalisation of euthanasia or physician-assisted suicide: survey of doctors' attitudes." *Palliative medicine* 23, no. 3 (2009): 205-212.

respondents' political party affiliation. Since Espino et al. did not include this variable in their study, this particular survey question was designed on its own with the intention of collecting information on the respondents' general political stance.

The next two survey questions, asked on a separate page, were uniquely designed solely for the purposes of this study. In an attempt to identify at least one experiential variable that relates to peoples' attitudes towards PAS, these two questions ask respondents to draw from their own personal experience with potential PAS candidates. The questions are again kept in the simplest terms possible, asking whether respondents have had experience with (1) someone close to them suffering from a terminal disease or (2) someone close to them living in a nursing home. Experiences with a terminally ill patient are requested because both of the ballot measures passed in the United States legalizing PAS (the Oregon Death with Dignity Act and the Washington Death with Dignity Act) have restricted potential PAS candidates to those with terminal illnesses that will kill them within six months. Experiences with patients living in a nursing home are requested because 40% of Americans aged 65 and older will die in nursing homes.³ As simple as the two questions are, they will provide enough original information to determine whether or not there is a correlation between those experiences and an individual's favorability towards PAS. Due to the lack of depth and supplementary information regarding the respondents' experiences with potential PAS candidates, there is certainly room for future researchers to expand on this aspect of the study. Asking subjects about the frequency of their experiences, the time frame of their experiences,

³ Lachman, Vicki. "Physician-Assisted Suicide: Compassionate Liberation or Murder?" *MEDSURG Nursing* 19, no. 2 (2010): 121-125.

their relationship with the potential PAS candidate, or other details regarding their experience could offer insightful information.

Questions 13 thru 15 are included in an attempt to quantify the dependent variable in the data analysis: an individual's favorability toward legalizing PAS. Three similar, but unique questions are asked to obtain data on three unique dependent variables as a precautionary measure. If no significant relationships are found when evaluating one variable, there are two other that might offer more significant results. The first two questions pose two unique scenarios for the respondent to consider. Both scenarios feature a hypothetical patient with a painful and incurable illness seeking physician-assisted suicide. The patient in the first question is terminally ill, while the patient in the second question is not. While ballot measures thus far have restricted potential PAS candidates to those with terminal illnesses that will kill them within six months, the second question poses another scenario that could generate a very different set of results. The third question is very straightforward, but is coupled with a supplementary question if respondents answer "Yes." The question asks, "Do you believe there are any circumstances in which a doctor should be allowed to end the life of a patient?" If the subject answers no, the survey skips to the next relevant question. However, if the subject answers yes, he/she is asked to expand upon the circumstances in which they believe a doctor should be able to end the life of a patient. Hopefully the inclusion of this open-ended response will provide both some justification for certain individual's responses and some suggestions as to what other researchers could ask their subjects in the future.

There is one other open-ended question in the survey that leaves space for respondents to expand upon their attitudes and opinions of PAS. This question asks respondents to describe from where they believe their attitudes and opinions regarding euthanasia and PAS stem. In other words, the question is trying to get at each individual's motivation for feeling the way they do about PAS. The following question identifies five factors that could potentially motivate an individual to feel one way or another, and asks respondents how important those factors are in determining their own attitude and opinion. These two questions are included for a number of important reasons. First, Seale's study on doctors' attitudes towards the legalization of PAS in the UK exemplifies the benefits of including open-ended questions for qualitative comments in a quantitative study.⁴ He was able to derive some critical information regarding certain doctors' motivation for being opposed to legalizing PAS that would not have come to light if he limited his postal survey to strictly quantitative questions. Open-ended questions also help the researcher determine which correlations found in the data indicate causation and which correlations could be coincidental. That same determination will be made easier by the final survey question, which asks respondents to identify the factors that affect their decision-making in regards to PAS.

The final two questions are also included as a precautionary measure to ensure that the dataset and subsequent regression model is not missing some crucial element. There has been research conducted on the costs and benefits of PAS that identify other factors not included in this study's survey instrument. Fass and Fass (2011) believe that

⁴ Ibid.

PAS is putting a tremendous amount of stress on pharmacists.⁵ If PAS were to be legalized in any given jurisdiction, physicians might be the ones prescribing lethal doses of medication, but pharmacists would be the ones filling those prescriptions. While the hypotheses made in this study do not include any acknowledgement of the potential issues legalizing PAS could have on pharmacists, the last two questions of the survey provide respondents the opportunity to express concerns of that nature. Another consideration is disability rights activists' perception of laws legalizing PAS as discriminatory against people with disabilities. "The disability rights group Not Dead Yet has argued that the Oregon law 'is really about a deadly double standard for people with severe disabilities, including both conditions that are labeled terminal and those that are not.'"⁶ This particular viewpoint seems to be shared only by a very limited group of people. However, if it is a significant trend amongst the population this study is surveying, respondents have the ability to express their concerns about the rights of the disabled in an essay response.

In addition to concerns about how PAS would affect particular groups of people such as pharmacists or the disabled, there has also been documentation of unfounded claims that could affect peoples' attitudes toward PAS.⁷ According to Foley, legalizing PAS is incompatible with a commitment to good palliative care.⁸ However, when put to

⁵ Fass, Jennifer, and Andrea Fass. "Physician-assisted suicide: Ongoing challenges for pharmacists." *American Journal of Health-System Pharmacy* 68, no. 9 (2011): 846-849.

⁶ Scoccia, Danny. "Physician-Assisted Suicide, Disability, and Paternalism." *Social Theory & Practice* 36, no. 3 (2010): 479-498.

⁷ Gill, Michael B. "Is the Legalization of Physician-Assisted Suicide Compatible with Good End-of-Life Care?" *Journal of Applied Philosophy* 26, no. 1 (2009): 27-45.

⁸ Foley, K. M. "Competent care for the dying instead of physician-assisted suicide." *New England Journal of Medicine* 336, no. 1 (1997): 54-58.

the test, Gill's research shows "that PAS is not in conflict with the goals of good end-of-life care, that the principles of good end-of-life care do not imply the unjustifiability of PAS. One can consistently both respect patients' requests for PAS and promote the very best care for patients at the end of life."⁹ Nevertheless, an individual who has heard Foley's argument without hearing of Gill's could theoretically oppose PAS based on the assertion that it is incompatible with quality palliative care. By offering a space for survey respondents to discuss why they support or oppose PAS and to identify the factors that affect their opinion, this study will be able to incorporate all factors based on reality or fiction.

In addition to ensuring that the survey does a thorough job of assessing all the factors influencing peoples' attitudes toward PAS, the last two questions should provide some interesting discussion surrounding the economics of legalizing PAS. Regardless of the results of this study, further research must be conducted so society can better understand the macroeconomic effects of legalizing PAS. However, as Fung suggests, there could be real economic benefits such as reduced health insurance premiums as a result of legalization.¹⁰ The question this study will explore is whether the general public even considers the potential economic effects in the PAS debate. By weighing the importance of economic factors against ethical, religious, political, personal, and other factors, this study will determine whether the implications of Fung's research is relevant to the general public.

⁹ Gill, 41.

¹⁰ Fung, K. K. "Dying for Money: Overcoming Moral Hazard in Terminal Illnesses through Compensated Physician-Assisted Death." *American Journal of Economics and Sociology* 52, no. 3 (1993): pp. 275-288.

Sample Population

By creating an online survey accessible via hyperlink, online distribution of the survey is relatively simple. The goal of this study was to examine the attitudes and opinions of adults (over the age of 18) in the United States. Since distributing a survey to the entire adult population of the United States is an unreasonable task, this study's survey was distributed to a convenience sample of that population. A convenience sample was the chosen method because "(convenience samples) are the least rigorous technique, involving the selection of the most accessible subjects. It is the least costly to the researcher, in terms of time, effort and money."¹¹ The accessibility of subjects is the greatest upside a convenience sample has to offer.

The survey link was circulated to a network of 532 adults in the United States via Facebook and email, of which 174 responded (yielding a 33% response rate). It is worth noting that several of the emails included a request that the survey link be forwarded to others who would be willing to participate. However, the number of "second-hand" responses is estimated to be nearly zero.

Unfortunately, the convenience sample population is not representative of the entire adult population of the United States. The greatest pitfall of a convenience sample is the fact that it "may result in poor quality data and lack intellectual credibility."¹² The reality is that a convenience sample is only representative of the researcher's family and friends to whom he/she distributed the survey. In the case of this study, the convenience sample is representative of the researcher's friends, family, and business contacts. By

¹¹ Marshall, M. N. "Sampling for qualitative research." *Family practice* 13, no. 6 (1996): 522-526.

¹² Ibid.

taking a look at the survey demographics, it is clear that this sample is not representative of the entire adult population of the United States.

Most concerning is the lack of religious and ethnic diversity. Of the 166 respondents who submitted their race/ethnicity, 156 (94%) identified themselves as “White/Caucasian.” Only one respondent identified with being “Black/African American.” Of the 165 respondents who submitted their religion, Catholics were the most well represented group with 60 (36%). 58 (35%) respondents indicated that they did not identify with a religion. Unfortunately there were no Hindu or Muslim respondents included in the convenience sample. Furthermore, although each respondent’s geographic region within the United States was not recorded, most of the people who received the survey were from either Maine or Colorado. Therefore the survey population as a whole is more representative of Catholic and nonreligious Caucasians from Maine and Colorado than the entire population of the United States as a whole.

Despite the clear downsides to taking a convenience sample and the inability of the sample to represent the entire adult population of the United States, the relationships found in the data analysis will be real among the given population. Although having only one African-American respondent is not enough to represent the attitudes of all African-Americans, the relationships between many of the other variables and favorability towards PAS will undoubtedly lead to some noteworthy results.

The Time Frame

Responses to the online survey were accepted over a one-week period in February 2012. The dataset compiled from all the survey results should be considered the

“current” attitudes and opinions of the convenience sample population. The study does not examine how any of the variables in the regression equation change over time, although that is another spin future researchers could put on this study.

Analytical Techniques

Following a summary of the descriptive statistics gathered from the survey data, the primary data analysis tool used in this thesis will be an ordinary least squares (OLS) regression model. Ordinary least squares regression has been used as an analytical strategy in the literature regarding peoples’ attitudes towards PAS. Burdette, Hill, and Moulton’s research turned the theory surrounding the effect of religion on peoples’ attitudes towards PAS into a formal evaluation using an OLS regression.¹³ Similarly, this thesis will attempt to formally evaluate the theories regarding the effects that several variables have on people’s attitudes and opinions of PAS using OLS regression.

The regression analysis will test for correlation and causality between 14 independent variables and three separate dependent variables. The inclusion of three dependent variables will result in three separate models. The data for the first dependent variable (“terminal_opp”) measures how favorable an individual is to PAS for the terminally ill, and was gathered from the survey question: *“Do you think that, if a person with an incurable and painful illness – from which they will die – asks for physician-assisted suicide, a doctor should ever be allowed by law to end their life?”* Responses were based upon a 5-point scale ranging from “Definitely should be allowed” to “Definitely should not be allowed.” The first regression equation will use

¹³ Burdette, Amy M., Terrence D. Hill, and Benjamin E. Moulton. "Religion and Attitudes toward Physician-Assisted Suicide and Terminal Palliative Care." *Journal for the Scientific Study of Religion* 44, no. 1 (2005): pp. 79-93.

“terminal_opp” as the dependent variable, measuring correlation and causality with all 14 independent variables. The model equation will appear as follows:

$$\text{terminal_opp} = B_0 + B_1(\text{male}) + B_2(\text{age}) + B_3(\text{education}) + B_4(\text{income}) + B_5(\text{party_affiliation}) + B_6(\text{religiosity}) + B_7(\text{married}) + B_8(\text{divorced}) + B_9(\text{protestant}) + B_{10}(\text{catholic}) + B_{11}(\text{buddhist}) + B_{12}(\text{jewish}) + B_{13}(\text{terminal_exp}) + B_{14}(\text{nursing_exp})$$

Each letter “B” with its corresponding label in subscript indicates some correlation coefficient (positive or negative) attached to each variable, which the OLS regression will quantify.

All variables accounting for race were omitted due to 94% of the sample population identifying themselves as Caucasian. The other three categorical variables (gender, marital status, and religion) are all included as dummy variables.

The second and third regression equations will be modeled after the first, with each accounting for a different dependent variable. The second dependent variable measures peoples’ favorability towards PAS for those who are not terminally ill, and will be labeled “nonterminal_opp.” The model equation for this dependent variable will appear as follows:

$$\text{nonterminal_opp} = B_0 + B_1(\text{male}) + B_2(\text{age}) + B_3(\text{education}) + B_4(\text{income}) + B_5(\text{party_affiliation}) + B_6(\text{religiosity}) + B_7(\text{married}) + B_8(\text{divorced}) + B_9(\text{protestant}) + B_{10}(\text{catholic}) + B_{11}(\text{buddhist}) + B_{12}(\text{jewish}) + B_{13}(\text{terminal_exp}) + B_{14}(\text{nursing_exp})$$

The third dependent variable is a binary variable. The data for the variable was drawn from a simple “yes or no” survey question asking if respondents would be favorable towards PAS under any circumstances. Despite the binary aspect of this dependent variable, the regression analysis will look very much the same:

$$\text{general_favor} = B_0 + B_1(\text{male}) + B_2(\text{age}) + B_3(\text{education}) + B_4(\text{income}) + B_5(\text{party_affiliation}) + B_6(\text{religiosity}) + B_7(\text{married}) + B_8(\text{divorced}) + B_9(\text{protestant}) + B_{10}(\text{catholic}) + B_{11}(\text{buddhist}) + B_{12}(\text{jewish}) + B_{13}(\text{terminal_exp}) + B_{14}(\text{nursing_exp})$$

By using three separate OLS regressions, the odds of this data analysis finding significant results are tripled. However, as hypothesized, the analysis is not expected to show significant results for all the independent variables included in the model.

Assuming that the results of each OLS regression do not show significant causality between each independent variable and the dependent variable, the model will have to be tailored until significant results appear. Based on the hypotheses from Chapter II, the expectation is that the age, gender, race, and marital status variables will all be excluded from the final regression models since they are not significantly correlated with any of the dependent variables. Therefore, if the hypotheses are accepted, the resulting regression equations for each dependent variable should be adjusted to appear as follows:

$$(\text{dependent variable}) = B_0 + B_1(\text{education}) + B_2(\text{income}) + B_3(\text{party_affiliation}) + B_4(\text{religiosity}) + B_5(\text{terminal_exp}) + B_6(\text{nursing_exp}) + B_7(\text{catholic}) + B_8(\text{jewish})$$

A discussion regarding the implications of the results will follow the OLS regression analysis. This discussion will include not only the causality proven by the OLS regression, but also the implications of the data collected from survey questions not used in the regression model. The importance that respondents attribute to ethical, economic, religious, political, personal, and other factors will be considered in the concluding chapter. Taking all the information and subsequent analysis provided from the survey into account, this section of the thesis will draw some conclusions regarding the significance that the American public attributes to the economic implications of legalizing PAS.

CHAPTER IV

RESULTS

Before analyzing the data collected from the online survey, viewing the descriptive statistics of the data will provide some telling information on the survey population and which variables should be included in the regression analysis. A summary of the descriptive statistics for all the independent variables in the model is shown in Figure 4.1.

Since four of the questions on the online survey (gender, race/ethnicity, marital status, and religion) asked for a categorical response, those variables were broken up into several binary variables representative of each category. For instance, rather than including one variable for marital status, there is a separate variable for each categorical response to the survey question. The binary variable “married” shows whether or not a survey respondent is married (0 indicates that the individual’s marital status is something other than married and 1 indicates that the individual is married). The same logic applies to the race/ethnicity and religion variables. One binary variable indicating whether or not a respondent is a male is sufficient in evaluating participants’ gender. The data for each of the four categorical variables in Figure 4.1 are grouped together in the lower portion of the table.

FIGURE 4.1

DESCRIPTIVE STATISTICS OF INDEPENDENT VARIABLES

Variable	Obs	Mean	Std. Dev.	Min	Max
age	166	30.51205	15.4558	18	81
education	166	4.343373	1.70814	2	9
income	159	3.641509	1.643102	1	7
party_affiliation	166	3.512048	1.781174	1	7
religiosity	165	3.193939	1.131031	1	5
terminal_exp	165	0.6848485	0.4659904	0	1
nursing_exp	165	0.7454545	0.4369314	0	1
male	174	0.4137931	0.4939337	0	1
indian	166	0.0060241	0.0776151	0	1
asian	166	0.0180723	0.133616	0	1
black	166	0.0060241	0.0776151	0	1
hispanic	166	0.0240964	0.1538124	0	1
white	166	0.9457831	0.2271303	0	1
married	166	0.2409639	0.4289624	0	1
divorced	166	0.0301205	0.171436	0	1
single	166	0.7289157	0.4458645	0	1
none	163	0.3558282	0.4802389	0	1
protestant	163	0.1717791	0.3783507	0	1
catholic	163	0.3742331	0.4854156	0	1
buddhist	163	0.0245399	0.1551948	0	1
jewish	163	0.0613497	0.2407102	0	1
other	163	0.0122699	0.1104273	0	1

The most glaring issue illustrated by the descriptive statistics is the extremely low representation from certain demographics. The online survey generated only ten responses from non-Caucasians – four Hispanics, three Asian-Americans, one African-American, one Native American, and zero Pacific islanders or Alaskan natives. Responses from between one and four individuals can in no way be considered representative of the attitudes and opinions for an entire ethnicity. Furthermore, incorporating an independent variable into a regression model when 94% of respondents

answered the same way will result in major collinearity issues. Therefore, the race variable will not be included in the regression model.

The data collected for the “religion” variable is much more diverse. The online survey generated responses from 60 Catholics, 58 individuals who did not identify with a particular religion, 28 Protestants, ten Jews, four Buddhists, and two others who specified their religion as “Unitarian Universalist” and “New age,” respectively. No responses were collected from anyone of Muslim or Hindu faith, so neither of those religions will be included as a binary variable. The binary variable for “other” religions will also be eliminated from the regression model because it is not representative of any particular demographic.

The data collected for the “marital status” variable consists almost entirely of single or married responses. The online survey generated five responses from divorcees and zero responses from widowed or separated individuals. With no representation from the widowed or separated population, these categorical variables will be omitted from the regression analysis.

Beyond the lack of representation from certain populations, the descriptive statistics reveal a sample population that is - when compared to the entire adult population of the United States - relatively young (mean age = 30 years old), relatively wealthy (median household income for the sample population lies between \$100,000 and \$200,000, significantly greater than the \$49,445 median household income in the United States¹), and slightly liberal (median political party affiliation identified as “Independent leaning Democrat”). It is also worth noting that 69% of the sample population indicated

¹ DeNavas-Walt, Carmen, Bernadette D. Proctor, and Jessica C. Smith, U.S. Census Bureau, Current Population Reports, P60-239, *Income, Poverty, and Health Insurance Coverage in the United States: 2010*, U.S. Government Printing Office, Washington, DC, 2011.

that they had experience being in contact with someone close to them who was terminally ill and 75% of respondents indicated that they had visited someone close to them in a nursing home.

The descriptive statistics of the three dependent variables used in this study will also be examined prior to the OLS regression analysis. Figure 4.2 displays those statistics.

FIGURE 4.2

DESCRIPTIVE STATISTICS OF DEPENDENT VARIABLES

Variable	Obs	Mean	Std. Dev.	Min	Max
terminal_opp	162	2.098765	1.143221	1	5
nonterminal_opp	161	3.161491	1.331825	1	5
general_favor	162	0.8271605	0.3792809	0	1

Figure 4.2 shows that the sample population used in this study is generally favorable towards the legalization of PAS for terminally ill patients, but not for nonterminal patients. The most compelling statistic in Figure 4.2 is the mean response for the “general_favor” binary variable. The mean value 0.8271605 reveals that 83% of the sample population believes that there are some circumstances in which a physician should be allowed to end the life of a patient. The strong support for legalizing PAS in some form amongst the sample population comes as a surprise due to the findings of a May 2007 Gallup poll regarding PAS. The poll showed that only 56% of Americans responded “should” to the question: “*When a person has a disease that cannot be cured and is living in severe pain, do you think doctors should or should not be allowed by law*”

*to assist the patient to commit suicide if the patient requests it?*² The discrepancy in the results on favorability towards legalizing PAS could be attributed to the sample populations taken by each study. The sample population in the poll developed by Gallup is probably more representative of the entire adult population of the United States than the convenience sample used in this study. Regardless of how accurately the convenience sample used in this study represents all Americans' attitudes and opinions towards legalizing PAS, enough responses were gathered to conduct an OLS regression that will garner accurate correlations between the independent variables and peoples' favorability towards PAS.

The initial OLS regressions (one for each dependent variable) of the data include all the independent variables for which data was collected, excluding the "race" variable to avoid obvious collinearity issues. Figure 4.3 shows the correlation coefficients and t-stats for each of the independent variables included in the first three tests.

² "Public Divided Over Moral Acceptability of Doctor-Assisted Suicide " [cited 2012]. Available from <http://www.gallup.com/poll/27727/public-divided-over-moral-acceptability-doctorassisted-suicide.aspx>.

FIGURE 4.3
INITIAL REGRESSION RESULTS

Variables	terminal_opp		nonterminal_opp		general_favor	
	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
male	-0.1556004	-0.76	-0.3067589	-1.26	0.0348494	0.51
age	-0.0247275	-1.08	0.0018141	0.07	0.0056065	0.73
education	0.0071202	0.09	0.0699984	0.73	0.016069	0.59
income	0.0512615	0.83	0.0587255	0.81	0.0089365	0.43
party_affiliation	0.0887802	1.5	0.0218355	0.31	-0.0489587	-2.47
religiosity	-0.1197881	-1.18	-0.1482215	-1.23	0.0613978	1.81
married	0.4330137	0.6	-0.5039504	-0.59	-0.1313809	-0.54
divorced	0.3182636	0.31	-1.49018	-1.22	-0.0954017	-0.28
protestant	0.2174753	0.66	0.0671606	0.17	0.1389446	1.26
catholic	0.4452515	1.74	0.4499766	1.48	0.0346609	0.4
buddhist	-0.6634085	-0.79	0.0920629	0.09	0.1568881	0.56
jewish	0.2425569	0.58	0.121652	0.25	-0.1938541	-1.39
terminal_exp	-0.4301723	-1.99	-0.5122742	-2.01	0.1311987	1.82
nursing_exp	0.0148328	0.06	0.1622344	0.6	-0.0547435	-0.71
cons	2.76051	4.07	3.339483	4.16	0.4584257	2.02
F-stat	1.89		1.27		1.7	
Number of obs	152		151		152	

Correlations will be considered significant in this study if the t-stat is greater than 1.96 or less than -1.96, which indicates 95% confidence in the findings. Each test shows that there is only one significant correlation between the dependent variable and independent variable. The first two tests show that whether or not an individual has had an experience with someone close to them who is terminally ill is negatively correlated with opposition to PAS for both the terminally ill and the non-terminally ill (thus positively correlated with favorability towards PAS, as hypothesized). The third test shows that an individual's political party affiliation is correlated with favorability towards PAS. Specifically, the more strongly an individual is affiliated with the Republican Party, the less likely they are to favor the legalization of PAS. Conversely, the more strongly an

individual is affiliated with the Democratic Party, the more likely they are to favor the legalization of PAS.

These findings are noteworthy because they suggest that two of the hypotheses predicted in this study are correct. It also marks the first instance in which a relationship has been established between an experiential variable (an individual's experience with terminally ill patients) and favorability towards PAS. However, the tremendous amount of insignificant variables included in the model must be filtered out before any definite conclusions can be made.

The first alteration for the next set of tests is to eliminate the dependent variable "nonterminal_opp" altogether. Based on the first set of regressions, it appears that this variable will not offer a drastically different perspective from "terminal_opp." Rather than continuing to model both dependent variables, tests will only include "terminal_opp" since, to date, all legislation regarding PAS in the United States has focused on terminally ill patients.

In an attempt to achieve a higher percentage of significant correlations in the models, a number of independent variables will also be eliminated. The second set of regressions will include only the independent variables for which a correlation with favorability towards PAS was hypothesized (level of education, household income, political party affiliation, religiosity, experience with the terminally ill, experience visiting a nursing home, Catholicism, and Judaism). Results from the second set of regressions can be seen in Figure 4.4.

FIGURE 4.4
REFINED REGRESSION RESULTS

Variables	terminal_opp		general_favor	
	Coef.	t-stat	Coef.	t-stat
education	-0.0750291	-1.35	0.0372969	2.02
income	0.0438971	0.75	0.0053377	0.27
party_affiliation	0.0946169	1.7	-0.0431509	-2.32
religiosity	-0.1228891	-1.4	0.0373057	1.27
terminal_exp	-0.4397118	-2.08	0.1311329	1.86
nursing_exp	-0.0218669	-0.1	-0.051729	-0.7
catholic	0.3732314	1.81	-0.0339639	-0.5
jewish	0.1643816	0.43	-0.2419379	-1.9
_cons	2.512596	4.99	0.6420965	3.83
F-stat	2.77		2.69	
Number of obs	152		152	

The results of the OLS regressions can be interpreted as two separate models equating the weight of eight explanatory variables on peoples' attitudes and opinions toward PAS. Correlation coefficients will only be included for variables with correlations that deemed significant using a 90% confidence interval. All other variables have no measurable effect on the dependent variable, and their correlation coefficients will be zero. The results of the first model measure the determinants that affect peoples' level of opposition to the legalization of PAS for terminally ill patients:

Opposition to the Legalization of PAS for the Terminally Ill = 2.512596 + 0(Level of Education) + 0(Household Income) + .0946169(Affiliation with Republican Party) + 0(Religiosity) - .4397118(Experience with the Terminally Ill) + 0(Experience Visiting a Nursing Home) + .3732314(Affiliation with Catholicism) + 0(Affiliation with Judaism)

The results of the second model measure the determinants that affect peoples' favorability towards the legalization of PAS in general:

Favorability towards the Legalization of PAS = .6420965 + .0372969(Level of Education) + 0(Household Income) - .0431509(Affiliation with Republican Party) + 0(Religiosity) + .1311329(Experience with the Terminally Ill) + 0(Experience Visiting a Nursing Home) + 0(Affiliation with Catholicism) - .2419379(Affiliation with Judaism)

Following the second set of regressions, tests for multicollinearity, heteroscedasticity, and the normality of errors were run to ensure that there are no issues with the data used in the models. First, a correlation matrix of all explanatory variables was generated to test for multicollinearity. One matrix sufficiently accounts for both models since the independent variables are identical for each one. A correlation valued at 0.4 or greater would provide evidence of multicollinearity issues, but the greatest correlation between any two variables in the correlation matrix corresponding with this regression model was 0.3266 between “terminal_exp” and “nursing_exp.” Therefore there are no issues of multicollinearity in the model.

Second, a White test was used to examine issues of heteroscedasticity. The test revealed a Chi-squared value of 33.64. That value is not high enough to reject the null hypothesis of homoscedasticity. Therefore, since the data fails to reject the null hypothesis of the White test, there are no issues of heteroscedasticity in the data used for this model.

Lastly, a Jarque-Bera test was conducted to test for the normality of the distribution of errors in each model. The null hypothesis for a Jarque-Bera test assumes that both the skewness equals zero and the excess kurtosis equals zero. Failing to reject the null hypothesis indicates no issues with the normality of errors. A Chi-squared greater than 5.99 results in the rejection of the null hypothesis, meaning there is likely an issue of skewness or kurtosis in the dataset. The Jarque-Bera test for the “terminal_opp”

model calculated a Chi-squared value of 14.11. The test for the “general_favor” model calculated a Chi-squared value of 26.7. The Chi-squared values for both models are well above the 5.99 limitation for failing to reject the null hypothesis, suggesting that both models have issues with skewness and/or kurtosis. In attempt to minimize the Chi-squared values for both models, logs were taken of all non-binary variables and the regressions were recalculated using the new logged variables. Jarque-Bera tests were redone for the updated regression models. Unfortunately, the resulting Chi-squared values did not change significantly in either model, and the null hypotheses were again rejected.

The results of the Jarque-Bera tests for both models suggest that there are issues of skewness and/or kurtosis inherent in the data. The normality issues in the models could be caused by one of two problems with the dataset. One possible explanation for the normality issues are outliers in the dataset. However, since all the variables in this model are either binary or use a scale with a range no larger than 8 (level of education is measured on a 1-9 scale), it is highly unlikely that there are outliers significant enough to skew the distribution of error terms. The most likely explanation for the normality issues is the number of observations accounted for in the models. Each model accounts for 152 observations, which is significantly less than the 1,111 observations that were considered in Burdette, Hill, and Moulton’s OLS regression model.³ A larger sample population would likely eliminate all normality issues in the model, and should certainly be included in future studies.

³ Burdette, Amy M., Terrence D. Hill, and Benjamin E. Moulton. "Religion and Attitudes toward Physician-Assisted Suicide and Terminal Palliative Care." *Journal for the Scientific Study of Religion* 44, no. 1 (2005): pp. 79-93.

Despite the problems highlighted by the Jarque-Bera tests, the results of the OLS regression models offer plenty of insight regarding the determinants of peoples' attitudes and opinions towards the legalization of PAS. Again, the regression results show a significant negative correlation between experience with the terminally ill and opposition towards PAS, which can also be interpreted as a significant positive correlation between experience with the terminally ill and favorability towards PAS. However, "terminal_exp" is the only independent variable that shows a significant correlation with opposition towards PAS as measured by "terminal_opp," just as it was in the first model.

In the OLS regression model using "general_favor" as the dependent variable, the results differ from the first test. Strength of affiliation with the Republican Party is significantly, negatively correlated with favorability towards the legalization of PAS. Conversely, strength of affiliation with the Democratic Party is positively correlated with favorability towards the legalization of PAS. Unlike the first model of people's general favorability towards PAS, the second regression also shows that an individual's level of education is significantly correlated with favorability towards the legalization of PAS. More educated individuals are more likely to have favorable attitudes towards PAS.

If the confidence interval for which explanatory variables are considered significant is widened from 95% to 90% in the "general_favor" model, two more variables emerge as significant. The "terminal_exp" variable (measuring an individual's experience with someone close to him/her who is terminally ill) shows a positive correlation with peoples' favorability towards legalizing PAS. This correlation coincides with both the hypotheses of this thesis and the negative correlation between "terminal_exp" and opposition to PAS as measured by the "terminal_opp" regression

model. Also, the “jewish” variable (accounting for whether or not an individual identifies with the Jewish faith) is negatively correlated with favorability towards the legalization of PAS. This result does not agree with the hypotheses of this thesis or the findings of previous researchers. However, since only ten of the 152 survey responses included in the model came from members of the Jewish faith, the results involving this particular variable could be flawed. A larger sample population including more individuals from different backgrounds would help prove or disprove this theory.

It is important to note that the results of the model measuring peoples’ general favorability towards PAS suggest that household income, religiosity, experience visiting a nursing home, and affiliation with the Catholic faith have no significant correlation with peoples’ favorability towards the legalization of PAS, despite the hypotheses made in this thesis. The model does, however, show a positive correlation between an individuals’ lack of religiosity and favorability towards the legalization of PAS that would be considered significant if a 25% confidence interval were used in the analysis. In that case, the hypothesis that religiosity and favorability of PAS are negatively correlated should not be rejected.

While analyzing how a person’s demographic characteristics and life experiences affect his/her attitudes and opinions toward PAS tells us a great deal about who is likely to favor the legalization of PAS, it does not tell us why. To gather some insight as to why people feel the way they do in regard to the PAS issue, the online survey instrument used for this study includes a matrix table for respondents to assign a value to the factors that contribute to their decision-making. The descriptive statistics of the data drawn from the matrix table can be seen in Figure 4.5.

FIGURE 4.5

DESCRIPTIVE STATISTICS OF THE FACTORS AFFECTING PEOPLES'
ATTITUDES & OPINIONS TOWARD PAS

Variable	Obs	Mean	Std. Dev.	Min	Max
ethical_factors	141	3.099291	0.9434357	1	4
economic_factors	141	1.900709	0.9732491	1	4
religious_factors	141	1.921986	1.035588	1	4
political_factors	141	1.475177	0.806948	1	4
personal_factors	139	3.086331	1.09334	1	4
other_factors	22	2.045455	1.290156	1	4

Figure 4.5 reveals that the most important factors influencing peoples' attitudes and opinions towards PAS are ethical factors and personal factors. Personal factors were explained in the matrix table as "your wishes for someone close to you to die or wishes for yourself to die in the future." The average respondent indicated that ethical and personal factors were "important" in regard to their attitude towards PAS and euthanasia. The average respondent indicated that economic and religious factors were "somewhat important." Political factors had the smallest influence on peoples' attitude toward PAS, with the majority of respondents indicating that they were "not important" in relation to their attitude towards PAS and euthanasia.

CHAPTER V

DISCUSSION, IMPLICATIONS, AND CONCLUSION

Discussion

This thesis aimed to study the factors that determine peoples' attitudes and opinions towards the legalization of physician-assisted suicide in the United States and the specific factors that influence their decision-making. From the analysis of the data, a number of conclusions can be drawn regarding how and why Americans over the age of 18 feel the way they do about the legalization of PAS. The data collected in this study suggests:

- Level of education is positively correlated with favorability towards the legalization of PAS.
- Affiliation with the Republican Party is negatively correlated with favorability towards the legalization of PAS.
- Affiliation with the Democratic Party is positively correlated with favorability towards the legalization of PAS.
- Religiosity is positively correlated with favorability towards the legalization of PAS.
- Contact with a loved one who is terminally ill makes an individual more likely to favor the legalization of PAS.
- Belonging to the Jewish faith is negatively correlated with favorability towards the legalization of PAS.
- Household income is not significantly correlated with favorability towards the legalization of PAS.
- Experience visiting a loved one in a nursing home has no effect on an individual's favorability towards the legalization of PAS.
- Belonging to the Catholic faith has no effect on an individual's favorability towards the legalization of PAS.
- The most important factors influencing people's attitudes and opinions towards the legalization of PAS are ethical factors and personal factors (i.e. peoples' wishes for someone close to them to die or for them to die in the future).

Many of the findings of the OLS regression models presented in this thesis have already been shown in the literature. Demographic variables were included in the analysis to legitimize the results of the models. The contributions of this thesis concern one particular explanatory variable in the OLS regressions and the implications of the factors affecting peoples' attitudes and opinions towards the legalization of PAS.

Implications

Both of the adjusted OLS regression models in this thesis suggest that there is an experiential factor that has been overlooked in all prior research. This is the first study regarding peoples' attitudes and opinions of PAS to include an experiential variable in its analysis. The results of the OLS regressions in this thesis clearly suggest that along with a number of demographic characteristics, peoples' life experiences also have an effect on their attitudes towards the legalization of PAS. Whether or not people have been in contact with someone close to them who is terminally ill at some point in their life is significantly correlated with their favorability towards the legalization of PAS. The notion that a person's life experiences can contribute to his/her attitudes and opinions towards the legalization of PAS suggests that the research that has been conducted on the determinants of peoples' attitudes and opinions of PAS is incomplete. Past studies have focused almost entirely on the effect of demographic characteristics on peoples' favorability towards PAS. There is now empirical evidence that peoples' opinions can change over time based on experiences completely separate from their demographic backgrounds.

The quantification of the factors affecting peoples' attitudes and opinions on the legalization of PAS express further implications of this thesis. The sample population

gathered in this study attributed significantly more weight to ethical and personal factors than any others, which implies that economic, religious, political, and other factors are much less important in determining the way people feel about the legalization of PAS.

Conclusion

Studies have shown that legalizing PAS and euthanasia can have a significant impact on the economy. On a microeconomic level, individual welfare would improve by offering patients greater autonomy and potentially rewarding their family with fewer healthcare costs and death benefits.¹ The legalization of PAS would also result in macroeconomic benefits by decreasing healthcare costs, improving the general welfare of society.² However, the results of this study suggest that the potential economic benefits of legalizing PAS are not the primary factor in determining peoples' attitudes and opinions on the issue. Instead, the issue of PAS and euthanasia is primarily an ethical and personal dilemma.

The statistics gathered in this study show that people attribute their opinion toward the legalization of PAS to ethical and personal factors much more frequently than economic (or any other) factors. The OLS regression analysis also suggests that peoples' life experiences with the terminally ill has a significant effect on their favorability toward the legalization of PAS. In general, the legalization of PAS appears to be much more of a personal, emotional issue for people than it is an issue of economics.

¹ Chan, Leo, and Donald Lien. "The value of planned death." *Journal of Socio-economics* 39, no. 6 (2010): 692-695.

² Fung, K. K. "Dying for Money: Overcoming Moral Hazard in Terminal Illnesses through Compensated Physician-Assisted Death." *American Journal of Economics and Sociology* 52, no. 3 (1993): pp. 275-288.

Suggestions for Future Research

While this study offers some novel insight on the topic of physician-assisted suicide, it could be improved and taken much further. First, the results of this study are limited by the sample population. Future studies should seek out a sample population that (1) has many more than 152 observations and (2) is more representative of the adult population of the United States than a convenience sample. These improvements would eliminate the issue with normality of the distribution of error terms that this study encountered. It would also result in more definite conclusions regarding the general population of the United States, as opposed to a convenience sample that is only representative of itself.

There is also ample opportunity for more research to be conducted on the economic effects of legalizing PAS. A study on how the PAS legislation passed in Oregon, Washington, and Montana has affected their economies and healthcare systems would be invaluable in understanding the economic impact of such policies. However, since this study has shown that ethics and personal factors carry much more weight than economics in determining peoples' attitudes toward the legalization of PAS, psychological and sociological studies would probably be of greater importance to society than studies in economics.

APPENDIX A

ATTITUDES AND OPINIONS TOWARD PAS SURVEY

You are invited to take part in a research study of physician-assisted suicide. The survey will take approximately 5-10 minutes to complete. What the study is about: This study aims to evaluate the factors that determine people's attitudes and opinions toward physician-assisted suicide. What you will be asked to do: You will be asked to answer questions regarding your attitudes and opinions regarding physician-assisted suicide, and questions regarding the potential determinants of your attitudes and opinions. The survey will take approximately 5-10 minutes to complete. Risks and benefits: The sensitive issue of physician-assisted suicide and suicide in general could potentially cause some emotional and/or social harm to you. The survey could bring up past memories of an elderly, suffering relative. In the worst-case scenario, questions on the survey could potentially lead to thoughts of your own mortality. By completing this survey, you will be helping compile a dataset that will give a great deal of insight into the public's attitudes and opinions toward physician-assisted suicide. The information you provide will certainly benefit the researcher's field of knowledge, and could potentially benefit society's understanding of the issue down the road. Taking part is voluntary: Taking part in this study is completely voluntary. If you choose to be in the study you can withdraw at any time without consequences of any kind. You can choose to skip any question they may feel uncomfortable answering. Participating in this study does not mean that you are giving up any of your legal rights. Your answers will be confidential: The records of this study will be kept private. All responses will be logged anonymously, and the data will be kept on a password-protected personal computer. Any report of this research that is made available to the public will not include your name or any other individual information by which you could be identified. If you have questions or want a copy or summary of the study results: Contact Tanner Howard at tanner.howard@coloradocollege.edu or 207-232-7508. If you have any questions about whether you have been treated in an illegal or unethical way, contact the Colorado College Institutional Research Board chair, Amanda Udis-Kessler at 719-227-8177 or audiskessler@coloradocollege.edu. Statement of Consent: I have read the above information, and have received answers to any questions. I consent to take part in the research study of the attitudes and opinions toward physician-assisted suicide.

- Agree
- Disagree

1. Gender:

- Male
- Female

2. Age at the moment of this survey:

What is the highest level of education you have completed?

- Less than High School
- High School/GED
- Some College
- 2-year College Degree (Associates)
- 4-year College Degree (BA,BS)
- Master's Degree
- Doctoral Degree
- Professional Degree (MD)
- Professional Degree (JD)

Current Household Income (if you are claimed as a dependent on another person's federal income tax return, include that person(s) income in your household income):

-
- \$20,000 - \$50,000
- \$50,000 - \$100,000
- \$100,000 - \$200,000
- \$200,000 - \$500,000
- \$500,000 - \$1,000,000
- >\$1,000,000

What is your marital status?

- Married
- Widowed
- Separated
- Divorced
- Never Married
- Other/Please Specify: _____

Generally speaking, do you consider yourself to be a(n):

- Strong Democrat
- Not so strong Democrat
- Independent leaning Democrat
- Independent
- Independent leaning Republican
- Not so strong Republican
- Strong Republican
- Other/Please Specify: _____

What is your religion?

- None
- Protestant
- Catholic
- Buddhist
- Hindu
- Jewish
- Muslim
- Other/Please Specify: _____

Would you describe yourself as:

- Very religious
- Somewhat religious
- Neither religious nor non-religious
- Somewhat non-religious
- Very non-religious

Race/Ethnicity:

- American Indian/Native American
- Asian
- Black/African American
- Hispanic/Latino
- White/Caucasian
- Pacific Islander/Alaskan Native
- Other/Please Specify: _____

Have you ever been in contact with someone close to you who is/was suffering from a terminal disease?

- Yes
- No

Have you ever visited someone close to you in a nursing home?

- Yes
- No

Do you think that, if a person with an incurable and painful illness - from which they will die - asks for physician-assisted suicide, a doctor should ever be allowed by law to end their life?

- Definitely should be allowed
- Probably should be allowed
- Not sure
- Probably should not be allowed
- Definitely should not be allowed

Do you think, if a person with an incurable and painful illness - from which they will NOT die - asks for physician-assisted suicide, a doctor should ever be allowed to end their life?

- Definitely should be allowed
- Probably should be allowed
- Not sure
- Probably should not be allowed
- Definitely should not be allowed

Do you believe there are any circumstances in which a doctor should be allowed to end the life of a patient?

- Yes
- No

Please describe the circumstances in which you believe a doctor should be allowed to end the life of a patient:

An individual's attitudes and opinions regarding physician-assisted suicide and voluntary euthanasia can stem from a variety of factors, including, but not limited to religious beliefs, economics implications, and an individual's wishes for his/herself. Please describe as best you can where your beliefs on physician-assisted suicide and voluntary euthanasia stem from:

Please indicate how important each of the following factors are concerning your attitude towards physician-assisted suicide and voluntary euthanasia:

	Not Important	Somewhat Important	Important	Very Important
Ethical factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Economic factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Religious factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Political factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal factors (i.e. your wishes for someone close to you to die or wishes for yourself to die in the future)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other factors (please specify):	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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