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Religious and Non-Religious Spirituality in Relation to Death Acceptance or Rejection

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Abstract

Meanings of religious and non-religious spirituality are explored, with implications for death acceptance, death rejection, and life extension. In the first of two exploratory studies, 16 elders low on intrinsic religiosity were compared with 116 elders high in religiosity; they differed both in qualitative responses and on death attitudes. In the second, 48 elders were assessed on religious and non-religious spirituality, and compared on attitudes toward death rejection, life extension, and death acceptance. Conclusions were that a sizable minority of elders hold non-religious spirituality beliefs, and these beliefs are related to greater acceptance of life extension and death rejection.

Keywords: religious spirituality, non-religious spirituality, death acceptance, death rejection, life extension

Religious and Non-Religious Spirituality in Relation to Death Acceptance or Rejection

Various meanings of spirituality exist in present day society, ranging from those that are based on a particular religion to those that are non-religious. The objectives of the present paper are (a) to define and distinguish religious and non-religious spirituality, (b) to examine the consequences of the two types of spirituality for older adults' attitudes toward death and life extension, and (c) to demonstrate these differences in attitudes toward death and life extension in two small exploratory studies. It is hoped that by so doing, a greater understanding of the two types of spirituality and their implications for meanings at the end of life can be gained.

Meaning of Spirituality: Religious and Non-Religious Spirituality

Spirituality is an elusive concept for which various definitions exist. For example, according to Koenig, McCullough, and Larson (2000), "Spirituality is the personal quest for understanding answers to ultimate questions about life, about meaning, and about relationships to the sacred or transcendent, which may or may not lead to or arise from the development of religious rituals and the formation of community (p. 18)." In this view, spirituality is a search for answers to ultimate questions that are related to a transcendent realm.

Baggini (2008) takes an alternate approach, such that spirituality includes all the unobservable mental states (e.g., love, beauty, powerful, transcendent) and excludes all the observable physical objects (e.g., food, water) in the materialistic or naturalistic world, while excluding any supernaturalistic world. However, Biaggini includes two additional ideas to complete the definition. Due to one's lack of competence or inability to deal with unseen forces operating, one recognizes a lack of ability to always control one's destiny as well as a dependence on others. One has limitations compared to someone more powerful, or someone who has known an object more beautiful, or someone who has known an idea more enlightening.

This awareness and comprehension of one's limitations elicits one's identification with someone or something more powerful than oneself, or an object more beautiful than any that one can produce, or an idea more enlightening than any which one can conceive, provided that the person, object, or idea fits in what one values.

Baggini's (2008) third idea is that transcendence has two general meanings. One meaning of transcendence involves a rational, theoretical realm, e. g., metatheoretical ideas about God. The second meaning is basically an emotional reaction or subjective experience, a peak experience (which is intense, vivid, and represents a valuable moment in time) beyond an ordinary experience, regardless of whether it is related to a person, beauty or an idea. The identification is with someone or something bigger than oneself which elicits a peak emotional response that goes beyond any ordinary emotional response. (Transcendence in this sense does not involve a supernatural realm.) Thus, my definition of spirituality based on Bassini's ideas is the following:

Spirituality is a peak emotional experience (beyond an ordinary experience) that occurs when one: (a) understands, values, and appreciates the appropriate characteristics of a person, object, or idea, (b) compares those characteristics to oneself and finds the person more powerful, or the art more beautiful than one could accomplish, or the idea greater than one could achieve (c) subsequently identifies with that person, object or idea, and (d) recognizes the accompanying emotional experience as one beyond ordinary experience. The experience of spirituality should be consistent with one's values and beliefs (in effect, derived from them), regardless of what they are.

Religious and non-religious spirituality thus can be considered two basic subtypes of spirituality in general. In addition to a particular type of experience, a second role of spirituality is the motivation of behavior. Each of these subtypes of spirituality will be considered in turn.

Spirituality Derived from Religious Belief

Basic beliefs and values underlying religious spirituality. To be religious involves three basic beliefs: the existence of God, the possibility of an afterlife with God, and the power of prayer as a way of communicating with him. Other aspects of any religion and its practices are secondary to these basic beliefs. For example, if one does not believe in God, then there is no point to religious practices leading to an afterlife. If one becomes totally committed to a religion, then believing in a God justifies the very meaning of one's existence, i.e., one exists to carry out God's desires and eventually will be with him in a supernatural life. Also, one can talk or communicate with God through prayer. One can ask God for help, express gratitude for previous help, express love for God, express one's commitment to serve him, and so on. God is the ultimate attachment figure for a human, so that one does not have to feel alone and isolated on earth (Cicirelli, 2004). Within this context, spirituality means identifying with this all powerful, all knowing, and all caring God. One can think of the Christian God as an example, but similar ideas would apply to Gods of other religions.

Religious spirituality. Religious spirituality is the peak emotional experience beyond everyday emotional experience when one identifies with a supernatural God and an afterlife with him. In short, different views of God and associated religious practices may exist for different religions on earth but the subsequent experience of religious spirituality should be a relatively common peak experience that can unite all believers in the idea of God.

However, there are problems with this viewpoint. There is much controversy as to whether or not God actually exists. What is the evidence? The fundamental source of knowledge and truth in the Christian religion is the Bible, revealed in the writings of prophets, especially the scriptures of the New Testament concerning the life and teachings of Jesus Christ as reported by his apostles. However, a number of questions have arisen about the writings selected for inclusion in the New Testament. Above and beyond the four gospels found in the New Testament, a considerable number of writings by other apostles and early Christians exist (and still others have been lost). Many of these versions differ from the Gospels in the New Testament (Ehrman, 1993, 2003), giving rise to diverse early Christianities. As a result of disputes between these groups, texts of the writings of the New Testament were modified in the early centuries after Christ's death to conform with the prevailing theological view of the group in power. Thus, if the teachings of Christ are assumed to be divine revelation, their essence has been revised and selectively edited to fit human purposes. Arguments about the translation of the early sources into modern languages also raise some questions about interpretation of the scriptures. Some Christian denominations adhere to a quite literal meanings of Biblical texts to support religious doctrine and moral and ethical rules, despite any inconsistencies, whereas other denominations use a broader and more general interpretation (Harris, 2004; Roof & McKinney, 1987).

In short, all religious views on the existence of God ultimately depend upon the criteria of faith in the validity of the Bible and/or similar documents. As a result, the experiences of religious spirituality also depend on the criteria of faith.

Non Religious Spirituality Derived from Scientific Beliefs

Basic scientific beliefs underlying non-religious spirituality. Science does not accept authority, faith in scripture, or existing documents as adequate criteria for the existence of God. Science is based on naturalism, i.e., there are natural causes that account for natural effects in an earthly world. Science cannot show that a natural cause, such as prayer behavior, could be related to a supernatural effect, such as a miracle. Or, similarly, that God as a supernatural cause could be related to a natural effect in an earthly world, such as an earthquake.

In contrast, the scientific method involves the formulation of a theory or hypothesis and testing it with empirical data available to impartial observers, in contrast to using faith, authority, tradition, or revelation for its validity (Gould, 2003; Shermer, 2000). A body of scientific knowledge (facts, laws, and principles) is built up over time, but it is always subject to change in the light of new evidence. Previously established knowledge may be refined, amended, restricted in applicability, or even rejected.

Scientists do have faith in science but it is not the same as faith in religion. Rather, it is faith in using the scientific method to continually check the empirical evidence to determine whether one is right or wrong, and to revise conclusions accordingly. When one uses faith to establish truth in religious beliefs there is no further check as in science. Thus, many scientists are agnostics, atheists, or apathists (indifferent towards religion). They may call themselves free thinkers, skeptics, secular humanists, and so on.

As human beings, all we have is each other in this world, with the common bond of being part of the same species. As a species, the potential exists for empathy and altruism for each other. This potential needs to be cultivated to a greater extent, but it is a motivating force for the development of a socially responsible society, quite apart from a belief in an abstract God and the rules of religion. The moral codes of organized religion, regardless of the validity or truth of

religious beliefs, have been tried for over 2,000 years without great success in motivating good behavior; transgressions of the moral codes are everywhere. This situation should be sufficient to motivate us to try understand our own species more, and perhaps develop our society with ethical/moral standards that work. Indeed, Appiah (2008) has shown that basic intuitions about morality are independent of organized religion and amenable to scientific study. Thus, development of an ethic for a socially responsible society is in the realm of possibility.

Non-religious spirituality. Non-religious spirituality is the peak experience beyond everyday experience that occurs when one identifies with someone or something more powerful than oneself, or an object that is more beautiful than any produced by oneself, or an idea that is more enlightening than any of one's own, and is consistent with one's values.

Assuming that a major role of spirituality should be to motivate behavior, what is proposed here? Ideally, the individual with non-religious spirituality should be motivated to work toward a better world, making a paradise on earth rather than assuming there will be a heavenly paradise waiting after death.

Certain of the principles of secular humanism as expressed by Kurtz (2008) could serve as a guide for efforts toward the establishment of such a paradise on earth. According to these principles, we should apply reason and science to the understanding of the universe and the solving of human problems and the betterment of human life, and not seek to explain the world in supernatural terms. Further, we want to protect and enhance the earth and to preserve it for future generations. We believe in enjoying a full life in the here and now, developing our creative talents to the fullest. Finally, humanism is seen as a source of rich personal significance and genuine satisfaction in the service to others. Certainly, such principles would be important as a beginning step in developing a paradise on earth.

Some efforts are already being made to better understand the scientific bases underlying our conscious experiences, including spirituality, and intrinsic motivations (Csikszentmihalyi, 2002; Miller, 2002). While these efforts are still in the earliest stages, it seems that some breakthroughs are near. As these continue, we may be able to create the conditions that foster the peak experiences of non-religious spirituality.

Consequences of a Religious and Non-Religious Spirituality in Relation to Death

As previously stated, aside from the unique experiences that religious and non-religious spirituality provide for an individual, one can conceptualize them as motives that initiate certain kinds of behavior. From religious spirituality, one would be motivated to live a life that God expects in order to be with him in heaven after one's earthly life is over. On this earth, one should behave in a way that glorifies God and carries out his wishes in order to best prepare oneself to be with God in the supernatural or after life. Earthly life and death are merely temporary steps as one proceeds to being with God and having immortality in an afterlife.

From the viewpoint of a non-religious spirituality, one should be motivated to think in terms of the present and make the best of it since there is no life after death. We should live our earthly life free of disease, and with zest born of energy and vitality to experience everything possible that life has to offer before death ends it all. But even if we ourselves can never be part of it, we should think, plan, and dream of a future life on earth (and even in the universe) that could equal anything promised by religion for an afterlife with God in heaven. We can work toward such a goal for our children and future generations when scientific advancement and people working together can make it possible. Such a blueprint for the future would follow three stages: delaying the onset of death, extending one's life span, and achieving immortality.

Stage one: Delaying the onset of death until the end of one's expected life span. Although current life expectancy in the United States is 77.8 years (Kung, Hoyert, Xu, & Murphy, 2008), the average life span is in the range of 85 to 95 years of age, and the maximum documented life span is approximately 122 years of age (Wilmoth, Deegan, Lundstron, & Horiuchi, 2000). Obviously, there is a large discrepancy between life expectancy and both average and maximum life span. However, dramatic changes are occurring as many more individuals are becoming centenarians and others becoming supercentenarians (those living to and beyond age 110). This is related not only to genetic factors but environmental conditions and a healthy life style or healthy habits of living which compresses morbidity, i.e., delays the onset of lethal illnesses. Recent studies throughout the world indicate that many people living to 100 or beyond are very healthy and show little evidence of major illnesses such as cancer, coronary disease, and the like (Hagberg & Samuelsson, 2008; Poulain, et al.,2004; Robine & Vaupel, 2002; D. C. Willcox, B. J. Willcox, Shimajiri, Kurechi, & Suzuki, 2007).

Obviously, there are still developing countries in which life expectancy and maximum life span are still relatively low, but there is also evidence on a world wide basis that human beings are increasingly living longer and approaching the present criteria of the maximum life span (age 120). Centenarians and super-centenarians are the fastest growing age groups.(B. J. Willcox, D. C. Willcox, & Ferrucci, 2008; D. C. Willcox, B. J. Willcox, Wang, et al., 2008). Thus, stage one is already becoming a reality.

Stage two: Life span extension beyond age 120. This stage obviously goes beyond the documented life span of anyone who has ever lived. However, researchers are now working on various life span technology projects that may point the way for an increase in the maximum life span to age 160 or 200 or beyond.

Many of these ongoing projects were reviewed in a television documentary (Scientific American Frontiers, 2000) hosted by Robert Alda. For example, reduction of caloric intake has resulted in an increase in longevity in laboratory animals. Another approach would be to increase cell division capacity indefinitely by using gene therapy to inject cells with the enzyme telomerase to keep cell telomeres from becoming shorter after each cell division and thus limiting longevity. Other possibilities include replacing worn-out body parts with synthetic parts made through tissue engineering, growing other body organs from stem cells, strengthening the immune system's ability to resist disease by regulating and maintaining optimum hormone levels, or making greater use of bionics to integrate human and metallic body components (as now being done with war veterans). All these approaches have potential for increasing the maximum life span to some degree even though they are still in the experimental stage.

Stage three: Indefinite extension of life. This stage is concerned with scientific research and approaches that perhaps could become operational in a reasonable time period and that have a chance to produce an indefinite extension of life in the near future.

According to the biomedical researcher Aubrey de Grey (de Gray & Rae, 2007), aging and death are not natural parts of life but a disease. Aging is an unintended biochemical side effect of normal metabolism in which cellular and molecular structures suffer inevitable damage. When the damage accumulates to a severe level, then pathological conditions lead to declines in health, resilience, vitality, and eventual death. De Grey argues that geriatric medicine's attempt to deal with the pathological conditions directly (e.g., treating Parkinson's disease) is futile and that gerontologists' attempts to manipulate the metabolic process would be ineffective. Instead, he proposes an "engineering approach" in which one periodically repairs or replaces the damaged cell structures to keep the level of damage at a low enough level for the cells to function

normally. By so doing, aging and death could be postponed indefinitely; de Grey suggests that life without death is only 25 to 30 years away. Although no research with humans has been attempted as yet, research with animals by de Grey and others is ongoing and reported in the peer-reviewed scientific journal *Rejuvenation Research*.

Another approach is cryonics or cryopreservation (Fahy, 2007), in which the body of a terminally ill individual is preserved by freezing at the time of clinical death (but before final biological death). At a later date, when the technology of thawing is well developed and a cure has been found for the particular terminal disease involved, then the individual can be revived, medically treated, and returned to normal life. Although cryonic preservation has been available for more than 30 years, recent advances in the science of preservation and in nanomedicine (Wowk, 2006) have made it more feasible. Conceivably, the procedure might be replicated more than once on the same individual if subsequent terminal diseases occurred, resulting in an indefinite life span.

Issues concerning life extension. If attempts to extend the life span are successful, there are social problems to resolve. Some of these include domination of the earth by a single generation of people, loss of new ideas and creativity from the vigor of the young, overcrowding of the planet, scarcity of resources, and high cost of treatment effectively restricting life extension to only the very rich. Finally, the objections of religious groups who feel that death is a prerequisite to an afterlife and thus life extension is a violation of God's will must be considered.

In summary, beliefs in non-religious spirituality, indefinite extension of life, and a continued existence in the natural world may form a basis for rejecting rather than accepting death. However, a democratic society should guarantee freedom and respect for those who have

a religious spirituality which includes death acceptance and preparation for an afterlife with their God.

Exploratory Studies of Elders' Death Views in Relation to Non-Religious Spirituality

In the previous discussion of the goals of non-religious spirituality, it was assumed that everyone would want to live longer and even attain immortality to enjoy living in a paradise on earth and exploring the universe. However, at the present time, many older individuals may have no desire to achieve anything further in life or to live beyond their expected life span. To examine the views of elders with a non-religious spirituality empirically was somewhat problematic, as they do not constitute an easily recognizable group for study. However, we carried out two small exploratory studies to examine the views of older adults on these issues.

Study I

In the first approach, we selected 16 older adults (8 women and 8 men) from participants in an earlier study (Cicirelli, 2002) on the basis of their extreme low scores on a measure of intrinsic (or subjective) religiosity, three items adapted from the instruments of Krause (1993) and of Chatters, Levin, and Taylor (1992). Of these 16 people, 13 had no affiliation with any religious denomination, 2 were Unitarians, and one was nominally Jewish. They ranged in age from 67 to 96 ($M = 80.81$, $SD = 7.41$). Most had at least some college education. Thus, this group of elders could clearly be considered non-religious. The question was whether their responses showed any indication of a non-religious spirituality.

Qualitative responses. To attempt to get at these elders' views regarding topics relevant to a non-religious spirituality, we asked questions in four areas. First, we asked them what they would like to do with the rest of their lives to see if they would reveal any further achievement

orientation with plans that probably could not be completed within their present expected life span. Among their comments were the following:

- I see my life as continuing to have a future. I am planning a small book.
- I have a mathematical theory that I would like to write up.
- I want to get ideas and solve problems.
- I'd like to do something exciting. There is new opportunity, new challenges, new experiences.
- I want to write a book that explains the social changes in today's world.

As one can observe from these comments, there is an implied desire to continue to live in order to attain their goals. And, they would have to continue living on earth rather than in heaven to achieve these goals.

The second question asked, "What do you think exists after death?" Their answers included the following::

- I think that when we cut the cord of our space-time there s something beyond that, a further development.
- I'd like to be able to experience another dimension.. a meaning dimension. I might find out what the meaning of this life had been.
- I have no conception of anything beyond our recent life. My conception of a god is one of relative disengagement.
- If you have continuing consciousness after death, there are other kinds of knowledge and experience that you will have.
- I would like to find out if there is anything on the other side.

In these responses, there was no indication of a goal of going to heaven which would indicate that these individual had a religious spirituality. Instead, some responses might be interpreted as hinting at the possibility of some other dimension of meaning, but not heaven.

A third question probed further to see if these older adults would like to have some extension of life, possibly revealing something about eventually accepting or rejecting death. We asked, “Would you like more time on earth to do things that you want or will you soon be ready for death? Their comments included:

- With 20 more years, I could start to develop new things.
- I could keep on going the way I am now.
- I would do things for other people as long as I could.
- I’d like to do more writing and drawing, and to travel.
- Get involved with all the things going on in the world. Get active in it.
- Today I feel like I am going to live forever.
- If I could live forever, I’d take that option.
- If I have to choose between life and death, then I want to live forever.

These responses suggest that rejecting death may be more of an attractive option to them rather than accepting death, at least any time soon.

The fourth and final question asked, “What do you expect after death?” Their responses included the following:

- I don’t have any fear at of the unknown. When I die, there will be no hereafter and no one to confront.
- Death is the loss of all sensations, a movement from existence to nonexistence.
- Death is the end of being, of existence. Nothing.

- I feel that when death comes, nature has completed its work. That is the ultimate of my being.
- The inevitable end.
- What's remaining of my body will be put back in circulation so I become part of other living forms.
- I look at dying as a natural phenomenon that takes place.
- I think that I'll be totally, permanently separated from all that is good on earth.

The responses of these older adults indicated an acceptance of death but not in the context of then going on to heaven. It was an acceptance of a naturalism rather than a supernaturalism.

Although this was a small exploratory study, limited in the number of participants identified and the questions asked, it does suggest that an appreciable minority of older individuals exist in the community who have a non-religious spirituality. A larger study is in the planning stages to probe their views further. Such a study may reveal that they prefer a paradise on earth rather than in heaven and reject death rather than accept it.

Death attitudes of elders with non-religious spirituality. A second area of exploration concerned the death attitudes of elders with non-religious spirituality. It was hypothesized that their death attitudes would differ from those held by elders with religious spirituality. Accordingly, the death attitudes of the 16 older adults considered to have non-religious spirituality were compared with the death attitudes of a sample of 116 elders from the same larger study who had extreme high scores on the measure of intrinsic religiosity (Chatters, Levin, & Taylor, 1992; Krause, 1992). This high religious spirituality group ranged in age from 65 to 97 ($M = 78.05$, $SD = 7.41$). In terms of religious affiliation, most were Protestants and Roman Catholics.

The measure of death attitudes was the Death Attitude Profile–Revised (Wong, Reker, & Gesser, 1994), a multidimensional instrument consisting of five subscales: Fear, Avoidance, Approach Acceptance (death as an entry to a happy afterlife), Escape Acceptance (death as a welcome escape from pain and suffering), and Neutral Acceptance (death as an inevitable fact of life). When the two groups were compared on the five death attitudes using MANOVA, they were found to differ significantly, Pillai's trace = .58, $F = 33.46$, $df = 5, 121$, $p < .001$. The univariate tests for differences between the two groups are summarized in Table 1. The reader is cautioned that the significance levels of the univariate tests should be interpreted conservatively, because the difference in the sizes of the two groups is large, although the F -tests is quite robust to unequal group sizes as well as differences in group variances (Keppel & Wickens, 2004).

The non-religious spirituality group scored significantly lower than the religious spirituality group on the Death Fear subscale, $p = .002$. Similarly, they tended to have lower Death Avoidance scores, $p = .10$. On the Approach Acceptance subscale, the non-religious spirituality group scored much, much lower than the religious spirituality group, $p < .001$. This was not surprising, since a number of items on the scale referred directly to God and a glorious afterlife in heaven. Finally, even though the non-religious spirituality group scored slightly lower than the religious spirituality group on escape acceptance and neutral acceptance, these differences were not significant. Overall, elders in the non-religious spirituality group seemed to have more matter-of-fact attitudes toward death, neither fearing it nor welcoming it.

Study II

Rationale. A second exploratory study was carried out with two main objectives. The first was to attempt to assess both religious spirituality and non-religious spirituality. The second

was to relate these measures of spirituality to attitudes about death rejection and extended life as well as to a set of life attitudes (including acceptance of death).

Participants. The sample consisted of 48 older adult volunteer participants from Greater Lafayette, Indiana, representing three spirituality positions: 21 members of Christian churches in the area (16 Protestants and 5 Catholics), 16 Unitarians, and 11 individuals (agnostics, atheists, apathists) with no church affiliations. There were 19 men and 29 women, ranging in age from 58 to 86 ($M = 73.94$; $SD = 8.17$). In terms of education, all were at least high school graduates and 42% held post-graduate degrees.

Measures. Three instruments were used in the collection of data for this study.

The Spiritual Beliefs Scale was constructed to assess religious spirituality (RS) and non-religious spirituality (NRS), with items referring to some kind of transcendent experience either in connection with a God or with some aspect of life on earth (see Appendix). The two subscales each had 10 items, with a response scale ranging from 1 (strongly disagree) to 5 (strongly agree). Internal consistency reliability (Cronbach's alpha) was .98 for RS and .86 for NRS. Evidence for validity was obtained by comparing scores of the three known groups or participants (Christians, Unitarians, Unaffiliated) on the two measures, with the Christians expected to score highest on RS and lowest on NRS. In the case of RS ($M = 31.50$, $SD = 10.43$, $N = 48$), the three groups differed significantly using ANOVA, $F(2,45) = 41.76$, $p < .01$, with Christians scoring significantly higher ($M = 45.62$) than the Unaffiliated group ($M = 28.82$), who in turn scored significantly higher than the Unitarians ($M = 14.82$). In the case of NRS ($M = 32.60$, $SD = 7.32$, $N = 48$), the three groups differed significantly, $F(2,45) = 5.62$, $p < .01$, with Christians scoring significantly lower ($M = 28.95$) than Unitarians ($M = 33.56$) or the Unaffiliated ($M = 38.18$). The RS and NRS subscales were not significantly correlated ($r = -.14$).

The Death Rejection Scale was devised to assess participants' attitudes toward extending life and rejecting death. The scale contains 22 items, with a response scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale included such items as: I would like to live forever. I would like to be frozen and thawed out later to continue living. I believe that science will eventually conquer death. Death has no place in a modern society. To live forever would be the best possible life. I will do everything in my power to fight my dying. The total score is the sum of the item scores and can range from 22 to 110. Internal consistency reliability of the scale (Cronbach's alpha) was .94. Again, some support for validity was obtained from comparing scores of the three known groups of participants (Christians, Unitarians, Unaffiliated) on the measure, with the Unaffiliated group expected to score highest on death rejection. Using ANOVA on the Death Rejection scores ($M = 52.45$, $SD = 17.51$, $N = 48$), the three groups differed significantly, $F(2,45) = 3.73$, $p < .03$. The Unaffiliated group scored significantly higher ($M = 63.27$) than either the Christians ($M = 50.00$) or the Unitarians ($M = 48.25$).

The third instrument was the Life Attitude Profile–Revised (Reker, 1992; Reker & Peacock, 1981), a 48-item multidimensional measure of meaning and purpose in life, including motivational aspects. The instrument has 6 subscales, each containing 8 items rated on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The subscales are: Purpose (having a sense of direction in past, present, and future life), Coherence (a logically integrated sense of order and reason for existence), Choice/Responsibility (having a sense of personal agency in life), Death Acceptance (acceptance of death as a natural event without fear), Existential Vacuum (having a sense of lack of meaning, goals, or direction in life), and Goal Seeking (a desire to search for new and different experiences and challenges in life). In addition to extensive evidence for the validity of the instrument, Reker (1992) reported internal

consistency reliabilities (Cronbach's alpha) for the subscales ranging from .79 to .86; reliabilities for the sample of this study ranged from .81 to .91.

Procedure. The project and consent procedures were approved by the Institutional Review Board at Purdue University. After being informed about the study and signing an informed consent document, each participant was interviewed individually at a convenient time, using a structured interview-questionnaire.

Results. To investigate the relationship of participants' religious and non-religious spirituality to their attitudes toward death rejection and life extension and to their life attitudes, analysis of variance was used. Religious spirituality (high, low) and non-religious spirituality (high, low) were the independent variables and the attitude measures were dependent variables. (Because score distributions on the RS and NRS scales were highly skewed, participants were divided at the median into two groups (high, low) on each variable.) Cell sizes were as follows: High RS-High NRS, 12; High RS-Low NRS, 12; Low RS-High NRS, 14, Low RS-Low NRS-10. (Age, gender, and socioeconomic status were used as covariates in the analyses.).

In the analysis for Death Rejection, only the main effect of NRS was significant, $F(1,41) = 26.60, p < .01$), with the High NRS group more favorable to the idea of no death ($M = 62.77$) than the Low NRS group ($M = 40.27$). To explore the possibility that participants were more favorable to some degree of life extension than to the idea of death rejection, a subscore was constructed using five items whose content referred only to life extension. In an analysis using this Life Extension subscore, again only the main effect of NRS was significant, $F(1,41) = 8.58, p < .01$), with the High NRS group more favorable to the idea of life extension ($M = 17.35$) than the Low NRS group ($M = 14.28$). Comparing the mean scores per item, for the High NRS group, the item mean for Life Extension ($M = 3.47$) was greater than the item mean for Death Rejection

($M = 2.85$); for the Low NRS group, the item mean for Life Extension ($M = 2.85$) also was greater than the item mean for Death Rejection ($M = 1.83$). It is clear that both the High and Low NRS groups are more favorable to the idea of extending life than to the idea of rejecting death.

The findings for the LAP-R varied for the six subscales. For the Coherence subscale, only the main effect of RS was significant, $F(1,41) = 7.38, p < .01$, with the High RS group having a higher sense of coherence ($M = 47.26$) than the Low RS group ($M = 34.52$). For the Choice/Responsibleness subscale, only the main effect of NRS was significant, $F(1,41) = 4.89, p = .03$, with the High NRS group having a higher sense of personal agency in life choices ($M = 45.99$) than the Low NRS group ($M = 41.45$). For the Death Acceptance subscale, only the interaction of RS and NRS was significant, $F(1,41) = 4.22, p = .04$. Looking at the simple main effects of NRS to explain the interaction, among those with low NRS, those in the High RS subgroup had significantly greater Death Acceptance ($M = 47.81$) than those in the Low RS subgroup ($M = 38.94$), $p < .05$. Among those with high NRS, there was almost no difference in death acceptance between those in the High RS subgroup ($M = 42.11$) than those in the Low RS group ($M = 42.54$). For the Existential Vacuum subscale, only the main effect of RS was significant, $F(1,41) = 10.24, p < .01$, with the High RS group having a greater lack of meaning and direction in life ($M = 29.96$) than the Low RS group ($M = 20.79$). There were no significant effects in the analyses for either the Purpose subscale or the Goal Seeking subscale.

Summary. This small exploratory study using the RS and NRS scales suggests several conclusions. First, many older people hold both religious spirituality and non-religious spirituality beliefs, at least to some degree. Second, those with stronger non-religious spirituality beliefs are more accepting of ideas of death rejection and life extension than those with weaker beliefs, regardless of any religious spirituality beliefs they may hold. Third, those participants

with the greatest degree of death acceptance had high religious spirituality beliefs and low non-religious spirituality beliefs. Fourth, those high in non-religious spirituality had a greater sense of personal control and responsibility in decision making, regardless of any religious spirituality beliefs. Fifth, those high in religious spirituality beliefs had a greater sense of coherence and meaning in life, regardless of any non-religious spirituality beliefs, but at the same time they also seemed to feel some sense of lack of goals or direction in life.

Discussion

In this paper, the concepts of religious and non-religious spirituality were defined and examined. Although spirituality is a somewhat elusive concept, it can be viewed as an emotional reaction or feeling transcending the immediate situation, based on gaining meaning from understanding an event, object, person, relationship, and may involve identification with more powerful others in immediate and ongoing situations. Religious spirituality involves finding meaning and associated feelings involved in another life with God whereas non-religious spirituality involves gaining meaning from understanding the universe, scientific and philosophical world views, the arts, and so on.

Implications for death attitudes. In the two exploratory studies, an attempt was made to compare groups of elders characterized by religious spirituality and non-religious spirituality. These two groups were found to differ in their attitudes toward death and toward the extension of life. Whereas those elders characterized by religious spirituality held attitudes highly favorable to approach acceptance of death (i.e., looking forward an afterlife with God), as well as favorable to a more neutral acceptance of death, they held negative attitudes toward extending life. In contrast, those elders characterized by non-religious spirituality expressed sources of meaning other than religious and held attitudes unfavorable to approach acceptance of death, or even

favoring a neutral acceptances of death. Rather, they could be said to be rejecting death, and holding positive attitudes toward extending life. Although the two small studies were merely exploratory, findings suggest that those elders with non-religious spirituality, now a minority in American society, constitute a distinct group worthy of further study. In sum, whether older persons hold religious spirituality or non-religious spirituality views, their positions not only can influence how they live and die, but also can influence the kind of end-of-life decisions they make (Cicirelli, 2008).

Implications for meaning of life. For the person with a religious spirituality, the meaning of life involves the preparation for a destiny beyond the present life. For some religious individuals, it may mean rebirth or reincarnation, joining shadowy spirits endlessly roaming the earth, and so on. For most Christians, there is resurrection from the dead to join God in another life. Also, all individuals are created equal in the image of God, which binds us to one another and is responsible for the love and care that we may have for one another as human beings.

For the person with a non-religious spirituality, the meaning of life is somewhat different. Since there is no afterlife, the individual is motivated to build a “paradise” here on earth and to extend life for as long as possible to enjoy the fruits of his/her labors. Since man is considered to be a product of an evolutionary process (whose origin is unknown), as a result of their genetic heritage people feel empathy and care for other human beings who face the same uncertainties of what may lie beyond an earthly life. Perhaps living as long as possible and exploring the universe can provide more meaning to a continued earthly life.

Both groups share a common ethical standard, that of caring for others and helping them when possible, but their reasons are different. For those with religious spirituality, it is meaningful because we are all children of God. For those with non-religious spirituality, it is

meaningful because we all belong to the same evolving species and depend on each other for survival and continued growth in an ever-changing world. Perhaps finding ways to live longer healthy lives and exploring the universe can provide the answers for our existence that will bring all human beings together or at least increase our tolerance and respect for each other. At present, we should respect the differences in the religious and non-religious spirituality viewpoints, compromise where necessary to live together, and support each other's dreams of a final destiny.

References

- Appiah, K. A. (2008). *Experiments in ethics*. Cambridge, MA: Harvard University Press.
- Baggini, J. (2008). The lost rewards of the spiritual life. *Free Inquiry*, 28(4), 41-43.
- Bova, B. (1998). *Immortality: How science is extending your life span—and changing the world*. New York: Avon Books.
- Chatters, L. M., Levin, J. S., & Taylor, R. J. (1992). Antecedents and dimensions of religious involvement among older Black adults. *Journal of Gerontology*, 47, S269-S278.
- Cicirelli, V. G. (2002). *Older adults' views on death*. New York: Springer Publishing Company.
- Cicirelli, V. G. (2004). God as the ultimate attachment figure for older adults. *Attachment and Human Development*, 6, 371-388.
- Cicirelli, V. G. (2008). End-of-life decisions: Research findings and implications. In A. Tomer, G. T. Eliason, & P. T. P. Wong (Eds.), *Existential and spiritual issues in death attitudes* (pp. 115-138). New York: Lawrence Erlbaum Associates.
- Csikszentmihalyi, M. (2002). The future of happiness. In J. Brockman (Ed.), *The next fifty years: Science in the first half of the twenty-first century* (pp. 93-104). New York: Vintage Books.
- de Grey, A., & Rae, M. (2008). *Ending aging: The rejuvenation breakthroughs that could reverse human aging in our lifetime*. New York: St. Martin's Griffin.
- Ehrman B. D. (1993). *The orthodox corruption of scripture: The effect of early Christological controversies on the text of the New Testament*. New York: Oxford University Press.
- Ehrman, B. D. (2003). *Lost Christianities: The battles for scripture and the faiths we never knew*. New York: Oxford University Press.
- Fahy, G. M. (2006). Advances in cryopreservation. *Cryonics*, 28(3), 12-13.

- Gould, S. J. (2003). Nonoverlapping magisteria. In P. Kurtz (Ed.), *Science and religion: Are they compatible?* (pp. 191-203). Amherst, NY: Prometheus Books.
- Harris, S. (2004). *The end of faith: Religion, terror, and the future of reason*. New York: W. W. Norton.
- Hagberg, B., & Samuelsson, G. (2008). Genetic and environmental determinants of healthy aging. Survival after 100 years of age: A multivariate model of exceptional survival in Swedish centenarians. *Journal of Gerontology: Medical Sciences*, *63*, 1219-1226.
- Keppel, G., & Wickens, T. D. (2004). *Design and analysis: A researcher's handbook* (4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Koenig, H. G. (2002). A commentary: The role of religion and spirituality at the end of life. *The Gerontologist*, *42*, Special Issue III, 20-23.
- Koenig, H. G., McCullough, M., & Larson, D. B. (2000). *Handbook of religion and health: A century of research reviewed*. New York: Oxford University Press.
- Krause, N. (1993). Measuring religiosity in late life. *Research on Aging*, *15*, 170-197.
- Kung, H.-C., Hoyert, D. L., Xu, J., & Murphy, S. L. (2008). Deaths: Final data for 2005. *National Vital Statistics Report*, *56(10)*, 1-121.
- Kurtz, P. (2008). The affirmations of humanism: A statement of principles. *Free Inquiry*, *28(4)*, 2.
- Miller, G. (2002). The science of subtlety. In J. Brockman (Ed.), *The next fifty years: Science in the first half of the twenty-first century* (pp. 85-92). New York: Vintage Books.
- Poulain, M., Pes, G. M., Grasland, C., Carru, C., Ferrucci, L., Baggio, G., et al. (2004). Identification of a geographic area characterized by extreme longevity in the Sardinia island: The AKEA study. *Experimental Gerontology*, *39*, 1423-1429.

- Reker, G. T. (1992). *The Life Attitude Profile-Revised (LAP-R): Procedures Manual: Research Edition*. Peterborough, Ontario, Canada: Student Psychologists Press.
- Reker, G. T., & Peacock, E. J. (1981). The Life Attitude Profile (LAP): A multidimensional instrument for assessing attitudes toward life. *Canadian Journal of Behavioral Science*, *13*, 264-273.
- Robine, J. M., & Vaupel, J. W. (2002). Emergence of supercentenarians in low mortality countries. *North American Actuarial Journal*, *6*, 54-63.
- Roof, W. C., & McKinney, W. (1987). *American mainline religion: Its changing shape and future*. New Brunswick, NJ: Rutgers University Press.
- Scientific American Frontiers (Producer).(2000). *Never say die* (Robert Alda, Host). (Available from Public Broadcasting Service Home Videos, SAMF9003)
- Shermer, M. (2000). *How we believe: Science, skepticism, and the search for God*. New York: Henry Holt & Com. (Owl Books).
- Willcox, B. J., Willcox, D. C., & Ferrucci, L. (2008). Genetic and environmental determinants of healthy aging. Secrets of healthy aging and longevity from exceptional survivors around the globe: Lessons from octogenarians to supercentenarians. *Journal of Gerontology: Medical Sciences*, *63*, 1181-1185.
- Willcox, D. C., Willcox, B. J., Shimajiri, S., Kurechi, S., & Suzuki, M. (2007). Aging gracefully: A retrospective analysis of functional status in Okinawan centenarians. *American Journal of Geriatric Psychiatry*, *15*, 252-256.
- Willcox, D. C., Willcox, B. J., Wang, N.-C., He, Q., Rosenbaum, M., & Suzuki, M. (2008). Genetic and environmental determinants of healthy aging. *Life at the extreme limit:*

Phenotypic characteristics of supercentenarians in Okinawa. *Journal of Gerontology: Medical Sciences*, 63, 1201-1208.

Wilmoth, J. R., Deegan, L. J., Lundstrom, H., & Horiuchi, S. (2000). Increase of maximum life-span in Sweden: 1861-1991. *Science*, 289, 2366-2368.

Wong, T. P. T., Reker, G. F., & Gesser, G. (1994). Death Attitude Profile–Revised: A multidimensional measure of attitudes toward death. In R. A. Neimeyer (Ed.), *Death anxiety handbook: Research, instrumentation, and application* (pp. 121-148).

Washington, DC: Taylor & Francis.

Wowk, B. (2006). Nanomedicine and cryonics. *Cryonics*, 27(1), 9-13.

Table 1

Summary of Univariate *F*-Tests for Differences in Death Attitudes between a Non-Religious Spirituality Group (n = 16) and a Religious Spirituality Group (n = 116)

Measure	Non-Religious		Religious		<i>F</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Fear	16.38	3.76	20.40	8.66	10.37	.002
Avoidance	13.87	6.59	16.72	6.49	2.70	.100
Approach Acceptance	27.69	16.94	60.04	8.94	56.10	<.001
Escape Acceptance	25.25	7.65	27.12	5.48	1.45	.230
Neutral Acceptance	29.43	4.18	29.58	3.48	0.02	.884

Appendix

Spiritual Belief Scale: Religious Spirituality

1. I get my strength from loving God.
2. To experience God through prayer transcends this earthly experience.
3. To be with God would be to experience someone far greater than myself.
4. My reason for existing is to serve God.
5. It is through God that I feel the excitement of being connected to all my “brothers and sisters.”
6. Being with God in an afterlife is a positive feeling beyond comprehension.
7. My belief in God gives me great comfort.
8. When I think of God, I feel so close to someone greater than myself.
9. Something so wonderful as our planet could not exist without a God.
10. Life has no meaning without God.

Spiritual Belief Scale: Non-Religious Spirituality

1. When I observe the beauty of nature, the sense of awe leaves me with no desire to ever leave earth.
2. I have moments of such emotional closeness being with my dearest friends that nothing beyond earth could replace them.
3. To experience the universe and all its wonders would transcend any heavenly experience.
4. My life here and now is more meaningful to me than any other life I could possibly have.
5. It would be deeply satisfying to remain on earth forever, and help to preserve its resources and beauty for future generations.

6. If I could experience all the joys of nature, I would want nothing more to make my life complete.
7. To experience the diversity of nature through evolution transcends any idea of heaven.
8. It is an awesome feeling to contemplate helping to build and be part of a paradise on earth.
9. The meaning I have found regarding life here on earth gives me such peace of mind that I never want to leave here.
10. My life is full of joy because I can envision the possibility of a lasting paradise here on earth.