THE INFLUENCE OF EDUCATION ON SPIRITUALITY

by

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(Under the Direction of Stacey Neuharth-Pritchett and Shawn Glynn)

ABSTRACT

Currently, little is known about the influence of formal education on the spiritual and religious beliefs of students. Despite a fundamental lack of understanding on beliefs, decisions about educational policy, parental home schooling, and even educational lawsuits are made with the belief that education in public schools can and does impact spirituality; an assumption which has in turn impacted the lives of students around the world. To further complicate this issue, a menagerie of theoretical and research articles in various academic disciplines, which normally could be used to develop the beginnings of an informed opinion, seem to provide contradictory conclusions. In an endeavor to remedy the current gap in academic knowledge, the current qualitative interview study focuses on the personal accounts of the educational and religious histories of former students. From the interview data collected it would appear that education has a limited role in the initial causation of spiritual belief change, but is of some importance during episodes of belief revision.

INDEX WORDS: Education, Spirituality, Religion, Belief Change, Qualitative,
                Terrorism, Evolution, Conceptual Change, Interview

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CHAPTER 1

INTRODUCTION

It may be sound advice to caution a friend against making judgments based on assumptions rather than facts. This warning, to never assume, is a common lesson presented in fables and from mentors and parents as we grow up, and for good reason, as it may lead to conclusions incorrectly drawn from stereotypes or false information, which may result in costly mistakes. Despite this caution, there is a clear trend that as an individual becomes more learned in an academic field, that individual becomes less likely to hold on to religious beliefs (Ecklund & Scheitle, 2007; Larson & Witham, 1998; Leuba, 1916; 1933). Although researchers are aware of this trend, it does little to explain how or why such a shift in belief occurs. Despite our clear lack of understanding of why these changes in belief develop, controversy over civil liberties and educational policies continue. Theistic as well as atheistic arguments about the purpose of education, along with legal battles between religious organizations and school systems in the United States persist over a variety issues stemming from assumptions that certain types of learned knowledge and spiritual beliefs are in conflict. Further, these controversies and lawsuits also bring into question how education fundamentally and irrevocably alters an individual's spiritual beliefs. Yet, the simple fact is that there is no solid evidence to support such an assertion.

Historically, there have been strong tensions between religious organizations and educational institutions, especially since the rise of the Catholic Church in western civilizations. Conflicts erupted during the age of the enlightenment which often saw learned individuals

pushing the boundaries of knowledge, only to be branded as charlatans and heretics by church officials for their discoveries (Lindberg, 2003). The church wielded such labels to imprison or even execute those who provided any alternative form of education which deviated from the controlled religious doctrine. One might assume that for the church to enact such harsh measures, the leaders of the church would have to give credence to alternative theories about how the world works, rivaling that of the Christian Holy Scriptures, which would be considered dangerous. Yet again, although the church appeared to have believed such an idea at the time, their conviction appeared to only be founded in assumptions.

In more recent years, numerous lawsuits have been filed across the country regarding the assumption that at least some of the information which is taught in public schools might impact religious beliefs. Although many types of knowledge might be seen as contradictory to established doctrines of religious faith, no area of knowledge has been placed under more scrutiny than that of evolution. Perhaps due to the discourse which highlighted the contrasts between evolution, creationism, education, and religion, such concerns famously became part of public debate during the 1925 Scopes trial. This trial attempted to set a legal precedent by challenging a law established by the Tennessee legislature in March of 1925 that banned the teaching of any theory in public schools which failed to promote the creation of man as stated in the Bible (for a review see Larson, 1997). It would not be until 1967, with the Supreme Court of the United States ruling in *Epperson v. Arkansas* that the teaching of evolution in public school was, in fact, a constitutionally guaranteed action allowed by First Amendment rights; and it was from that decision knowledge which directly challenged mainstream religious teachings was permitted to be taught in public schools.

Yet over 40 years after the ruling from the Supreme Court, people may still be wary of the effects that public education could have on the spiritual beliefs of their children. Research conducted with parents who have chosen to either home school their children or send them to a private academy often cite the inconsistency between their religious beliefs and the educational policies of their local schools as one of the top reasons for removing their children from the public school system (Yang & Kayaardi, 2004). Many parents who home school assume that allowing their children to be exposed to information which is inconsistent with their religious beliefs is inherently dangerous. In addition, it is clear the assumption that education can alter religious faith continues to be a widely accepted belief, both within the United States and in various countries abroad. Notably, attempts to limit the types of knowledge which an individual is taught for the sake of maintaining religious doctrines, continues to a great extent in Middle Eastern countries, but for the purposes of defending Islam rather than Christianity (Edis, 2007). Even more moderate countries such as Turkey have in recent years marginalized any information which stands to challenge the teachings of Islam; and depending on which governmental party is in political power, completely eliminated such information from both the text books and curriculum of school systems (Edis, 2007).

If so many individuals around the world assume a connection between education and spiritual change, how does current educational theory hold up to these beliefs? Jean Piaget (1971) advocated the idea of constructivism, in which individuals slowly construct their understanding of the world over time. Such a theory holds that as humans learn new information about the world, they then use it to manufacture a superstructure of beliefs explaining how the world works. However, much like in constructing a building, as the process advances balance must be maintained, in order for what has been built to remain stable. Cognitively, this is

accomplished by testing the mental structure we are building in our minds with new types of knowledge and experiences. When new and significant information fails to fit into the pre-established construct, we begin to feel a natural level of discomfort with this realization. Piaget (1971) described this process as going into a state disequilibrium, from which we must either assimilate the new information into what has already been built, or accommodate it by fundamentally changing our conception of the given construct (1971).

In ascribing to a traditional theory of constructivism, individuals could assert that if a person had developed a construct of the world which included doctrines of a specific faith, and then was forced by an educational institution to be taught new information which logically contradicted those religious teachings, cognitive disequilibrium could occur. The resultant disequilibrium could cause an individual to accommodate for what was just learned, leading to an alteration or dereliction of previously held religious beliefs. In short, learning new things often causes people to start to change their minds, in cases of people who are strongly devoted to a particular faith they may seek to prevent this change from happening by limiting information which challenges their faith.

However, significant flaws still exist with the assumption that various types of education will impact faith. Neo-Piagetians have since modified the original theories of how individuals construct their understanding of the world, from a domain general logical structure as Piaget believed, into a domain-specific theory (Gelman & Williams, 1998; Wellman & Gelman, 1992, 1998). In short, this change means a movement away from the idea that we construct one giant superstructure which balances all of our beliefs, and instead suggests that we build separate and unique structures for different areas of thought. An implication of this change in theory would be

that it could become much harder for new knowledge to impact religious beliefs, especially if that information was encoded to a different domain.

Data collected on the American public suggests congruence with the updated constructionist theory. Survey data (Harris Poll, 2006) indicates that nationally beliefs about the existence of God have remained more or less stable for the past 80 years. Considering that it was roughly 40 years ago that it became legal to teach evolution in the U.S. and rates of faith have failed to change, these rates are astounding. Although evolution is a part of the curriculum in all public schools in the U.S. belief in the existence of God, as a whole, are the some of the highest of any industrialized nation (Harris Poll, 2006). Such information again calls into question the assumption that formal education is influential in impacting the spiritual beliefs of students.

Yet given the assumptions being made, by home schooling parents to political leaders alike, impacting the lives of millions of individuals living across the world, the question still remains: what impact does formal education have on the spiritual beliefs of students? As of now, we are unsure as different types of research point toward different answers. Therefore, the current research study attempts to answer that question directly by implementing a classic qualitative research design to examine the educational and religious history of participants.

Definition of Terms

There often exists confusion when the same word is used by groups of people who are accustomed to different connotative meanings; the resultant situation is one in which a person employs a term at their own peril, with the hope and intention of conveying a specific meaning, but with no guarantee of success. In an attempt to avoid such a situation with the current work, a list of words and how each is defined is provided below.

Belief – a cognitive condition in which an individual holds a particular proposition to be true.

Concept – a mental representation which is used to determine category membership of propositions.

Personal spirituality – an individualized system of metaphysical beliefs which may employ one or a combination of elements, from a single, or multiple religions. (As in the phrase, "I am not religious, but I am spiritual".)

Proposition – Any assertion which can be either true or false.

Religion – a standardized set of beliefs and rituals, often attached to a moral code, which are designed to express faith in a divine power.

Spirit – An energy or essence believed to be the animating force inside living beings.

Spirituality – an interest in matters concerning the spirit or soul, often from the view point of a particular religion.

CHAPTER 2

LITERATURE REVIEW

To piece together the information which informs this study, research was summarized from a wide variety of sources, including surveys conducted almost 100 years ago to current theories focused on the processes of belief change. The following literature review is presented to highlight a gap in current academic knowledge about formal education and beliefs. This gap requires research attention because of the importance of understanding how education impacts the lives of individuals beyond the classroom. The goal of the following review is to substantiate the purpose for the proposed research study, from which meaningful conclusions may be drawn with a defensible degree of validity on the extent to which formal education has an influence on religious beliefs.

Research into Belief and Conceptual Change

Before we can discuss the nuances of how education might be a factor in belief change, a review of current theories and synthesis of what previous research studies have concluded about the process of belief and conceptual change is needed. Even broaching the subject of conceptual change can be a strenuous scholarly exercise, as various academic disciplines often choose drastically different definitions to define the topic.

Conceptual Stability

One way to begin to address the topic is to look at conceptual stability, or how concepts and beliefs remain the same. The easiest way for a concept to be stable is for it to be simple, without alternative information. If an individual is only aware of one method of understanding

the world then that concept is safe, however the situation becomes more delicate once an alternative or competing source of information comes into play. Philosopher Umberto Eco (1998) asserts that when two systems of conceptual beliefs come into contact, as two individuals or even as two cultures, there are only three possible methods of maintaining conceptual stability, no communication, conquest, or pillaging.

No communication occurs when the two systems both recognize that the other exists, but there fails to be any substantial interactions between them. Normally in such a case both systems can function in relative isolation and have strong independent communities, allowing for the creation of an insulating conceptual bubble. On a macroscopic scale this could be seen as the early relationship between Eastern and Western cultures, in which both sides were acutely aware that the other existed, yet they both developed largely in an independent fashion from each other. On a more microscopic scale this could manifest as two high school cliques who both refuse to acknowledge the existence of the other, and therefore continue to hold fast to their conceptual views of the world.

Conquest is the second form of conceptual stability proposed by Eco (1998). In this situation one of the two individuals, or groups, has more power than the other, and therefore uses their power to forcefully enlighten those who subscribe to the alternative system of beliefs. Examples of such a dramatic method of maintaining concepts have happened many times throughout history, continuing to this day, with powerful institutions or governments attempting to hold fast to their conceptions of the world, by dominating people through re-education. However the same tactic is also employed by individuals; an example could be a college professor who explains to her class, after they have requested that she use multiple representations of content, she only teaches through the use of lectures. In such a case, the

professor who is in power, is exposed to alternative concepts of teaching, but can easily reject the concepts due to her status.

The last possibility proposed by Eco (1998) for conceptual stability is pillaging. In this case, again there is an individual or group in power, who then recognizes that the existence of a differing system of beliefs which consists of unique concepts or knowledge, but then fails to incorporate the new concepts into their system of beliefs in any sort of meaningful way. Those in power take concepts and either trivializes them to the point that most of the meaning is lost, or they simply ignore them altogether. An example of this might be the popularization of acupuncture in America which lacks the knowledge of harmony and spiritual understanding intended with the practice.

In many ways, Umberto Eco's ideas about the nature of conceptual stability are similar to Jean Piaget's development of equilibration, with one of the main differences being the idea of power. Because Eco was thinking about concepts up to the level of entire civilizations, issues of power and control become central themes; beginning with a different focus, Piaget was dealing with the mind of individuals, and how each mentally constructs the world around them. For Piaget, when novel information is unable to be successfully integrated into pre-established constructs, three options are possible, but only one allows concepts to remain stable. Piaget described this process as going into a state disequilibrium, where we feel discomfort that something about the world fails to fit into our concepts of what should be. An individual can both stop disequilibrium and maintain conceptual stability by rejecting the new information, assimilate the new information into what has already been built, or accommodate the new knowledge by fundamentally changing our construct of the world (1971).

Models from Science

A great deal of current thinking on conceptual change was started with the writings of Thomas Kuhn, in his work, *The Structure of Scientific Revolutions*, which details the progression of scientific thought throughout history. Specifically Kuhn notes that there are two types of changes that occur within a field of knowledge, small additions which provide overtime a more lucid understanding to a body of knowledge, and then total paradigm shifts which fundamentally alter the field and lead to entirely new ways of thinking about a body of knowledge. In history we can see such changes as dramatic shifts in understanding, each time with a leap forward which enables new insights. Through the history of physics the scientific revolutions are easy to recognize, from Aristotelian, to Newtonian, to Einstein's Theory of General Relativity.

Cognitive psychologists paid attention to Kuhn's ideas and attempted to parallel them with theories of how the mind works. Specifically the work of Carey (1988), which developed a widely accepted model of conceptual change; in this model there is an important distinction made between weak and strong knowledge restructuring. Carey states that when an individual is going through a process of regular learning, we can typically find minor modifications happening to concepts or the redefining of relationships between concepts. All of these minor revisions are seen as weak knowledge restructuring. However, other times individuals go through the process of strong knowledge restructuring, during which there is a radical departure from the formation of prior concepts, and the basic ontological foundations of concepts are rebuilt to accommodate new knowledge. In effect, individuals go through weak restructuring all the time, by fitting new information into old mental constructs, and are therefore going through some, albeit minor, conceptual change. Yet, it is important to be able distinguish everyday changes, from total mental revisions.

An alternative theory about the types of conceptual change, also influenced directly by Kuhn's work, is the writing of Thagard (1992), in which he details nine possible degrees to which mental beliefs and concepts are often augmented. Thagard views concepts as existing as a hierarchical structure, and therefore argues that lower level alterations should be classified differently than major changes. By his system certain mental functions such as (1) adding a new instance, (2) adding a new weak rule, or (3) adding a new strong rule, are seen as lower changes to be labeled as belief revisions. Then higher mental actions such as (4) adding a part-relation, (5) adding a new kind-relation, (6) adding a new concept, (7) collapsing a part of a kind-hierarchy, (8) reorganizing hierarchies, or (9) changing the organization principle of a hierarchical tree, are seen as conceptual changes. Thagard asserts this distinction should be made because each of his cognitive changes after the fourth type requires the interaction of concepts, rather than single beliefs.

Later work by Gentner, Brem, Ferguson, Markman, Levidow, Wolff, & Forbus (1997), simplify the nine degrees of cognitive change described by Thagard (1992), into three main possible types. They argue that from an exposure to new information, each of which deals with a different magnitude of change, belief revision, theory change, and conceptual change, each equating to a more substantial alteration of structure. Belief revision would be seen when an individual modifies the truth value of a fact after being supplied with new information; while theory change would be altering global knowledge structures, and conceptual change would be representing a revision to the rudimentary foundations which make up a belief structure.

Problems of Logic

However as noted by Piaget and Garcia (1987), unlike with scientific revolutions, a radical conceptual change in no way guarantees a better or more valid understanding of the

world. Despite this caveat, radical conceptual change often leads to mental constructs which are of greater complexity, having integrated further information into a concept, and are more stable, being able to account for a larger degree of how the world appears to function (Lewis, 2000). Often such drastic changes in conceptual understanding are caused by an individual who purposefully reanalyzes logical inconsistencies within a conceptual system (Case & Okamato, 1996; Karkiloff-Smith, 1992; Moss & Case, 1999). Frequently, such analysis begins after having found differences between a mental concept of reality, and how reality has actually unfolded.

Although the descriptions of cognitive change that were being developed out of delving into the history of scientific revolutions were extremely useful at modeling the how logical systems should functional under ideal circumstances, it became apparent to theorists that such models might fail at completely explaining human beliefs. As has been demonstrated throughout the course of human history, people can be anything but logical, therefore any model of cognitive change which was based purely on logic would differ from how individuals actually behave; provided with such an understanding theorists divided belief revision into two realms, *hot* and *cold*. The need for hot conceptual change models was first proposed by Pintrich, Marx, and Boyle (1993), in which the context of a learning situation and the motivations of the learner were taken into account when theorizing about how individuals change concepts and beliefs. Therefore as researchers we are left with the judgment to as to how religious beliefs are encoded into the mind, as either *hot* or *cold* conceptions.

Having a theory of what is occurring in the mind when concepts begin to change is helpful, but in addition there needs to be some idea of what serves as influences or triggers for the beginnings of change. One of the researchers to address this issue is Howard Gardner (2006), who came up with seven key areas which influence what we believe: reason, research,

resonance, re-descriptions, resources, real events, and resistances. Each of this areas Gardner argues has a major impact on how individuals make and eventually edit their beliefs.

Early Surveys on Education and Spiritual Belief

One of the earliest surveys which examined the religious attitudes of both college students and academic professionals in the U.S. was conducted by James Leuba in 1914. He would share his findings with the world in his 1916 book entitled, *The Belief in God and Immortality*. In it, Leuba (1916) defines God as,"…to whom one may pray in the expectation of receiving an answer" (p. 223). By his definition Leuba has included all monotheistic and polytheistic deities to which an individual could believe, creating a very wide net to the meaning of God. Leuba goes on to explain the means he used to inform his selection of participants, relying on the *American Men of Science* (AMS) which contained an inventory of the names of 5,500 scientists, as well as the membership lists of the American Historical Association, American Psychological Association, and the American Sociological Association. Then using the available records, he went on to randomly select groups of potential participants from each listed group scientists, historians, psychologists, and sociologists. Due to the large number of scientists listed, two independent groups were created for polling.

To add an extra layer of analysis to his survey Leuba purposefully included both distinguished and non-distinguished members for each academic group being polled. In the AMS a symbol was noted next to the name of distinguished men of science; in total 1,000 men had such an honor. For example, out of the total 1,000 scientists surveyed, 400 of them were randomly selected from those who had been classified as "greater" by the AMS. Therefore in both sample groups 300 men were classified by Lueba as "lesser" scientists and 200 were

"greater" scientists. Similarly natured methods were used to classify the professionals in the other academic categories.

The results for Leuba's surveys of professionals are revealing, in total 41.8% of scientists polled in 1914 believed in God. Yet when broken into the category of "lesser" or "greater", a more lucid distinction appears with 48.25% of the former and 31.70% of the latter believing in God. Further polarization appears when selecting specific disciplines of science, with those who were expert in biology having a lesser rate of belief than experts of physics. In more detail, "lesser" physicists showed a 49.7% and "greater" physicists a 34.8% belief rate, while "lesser" biologists showed a 30.5% and "greater" biologists a 16.9% belief rate in God.

However, it may be inaccurate to assert that scientists were the sole proprietors of disbeliefs in Leuba's surveys. Other academic professionals of the day were equally as doubtful to the existence of a God as were the scientists. With "greater" historians at 32.9%, "greater" sociology professors at 19.4%, and "greater" psychologists at 13.2% belief rate in God. Personally, I believe the most notable and interesting group is the psychologists, who as a whole had a lower rate than even the biologists.

Table 2.1 Belief in God in 1916

Category	Total	"Lesser"	"Greater"
Scientists	41.8%	48.25%	31.7%
Physicists	43.9%	49.7%	34.8%
Biologists	30.5%	39.1%	16.9%
Historians	48.3%	63%	32.9%
Sociologists	–	29.2%	19.4%
Psychologists	24.2%	32.1%	13.2%

Source: Leuba, J. H. (1916). *The belief in God and immortality*. Chicago: Open Court Publishing.

In the same book James Leuba also reports his findings regarding surveys he had completed by 927 college students in the United States. The student responses hailed from nine

colleges of rank and two normal schools across the country; all of which Leuba describes as being non-technical colleges. Care was taken to exclude strictly Catholic universities for fear of a biased sample group. Of the 927 participants, 638 were women and 289 were men, and the vast majority of the students were between the ages of 18 and 25. It is interesting to note ratio of men to women given the era of the surveys.

The overall rate of individuals who professed a belief in God was a fair deal higher than that of the academics; with 82% of women and 56% of men affirming their belief. However, in a related question of one's belief in immortality, an essential belief in all of the Abrahamic religions, a downward drift in the rate of belief is noticeable as students' progress through their collegiate studies. The highest rate of belief in immortality is the freshmen in college at 80.3%, then sophomores at 76.2%, juniors at 60%, and seniors at 70.1%. Unfortunately, Leuba failed to report the rates of belief in God broken down by college year.

Second round of surveys 1933.

James Leuba later went on to repeat his survey work in 1933, using the same selection standards and research technique. He again used the AMS, this time the 1933 edition, to establish random groups of individuals of both "greater" and "lesser" status. The results from the surveys showed a downward trend in the belief in God across all academic disciplines, as well as continuing the pattern of the "greater" professionals having a lower rate of belief than the "lesser" professionals. Overall, the summation of all "lesser" groups was a 35% belief in God, and the total of all "greater" groups was a 13% belief in God. The highest rate of belief was among the physicists with 43% of the "lesser" and 17% of the "greater" professing a belief in God. The lowest rate of belief was among psychologists with 13% of the "lesser" and 2% of the "greater" believing in God. In 1933, it seems clear that being a distinguished academic in the

field of psychology was a greater challenge to an individual's belief in God than either

evolutionary theory or the geological record.

Table 2.2 Belief in God in 1933

Category	"Lesser"	"Greater"
All Scientists	35%	13%
Physicists	43%	17%
Biologists	31%	12%
Sociologists	30%	5%
Psychologists	13%	2%

Source: Leuba, J. H. (1933). Religious beliefs of American scientists. *Harper's Monthly Magazine.*

In addition, James Leuba also repeated a new round of surveys on religious attitudes of

college students in his 1933 article. However for this group of surveys only 2 colleges were

chosen, but over 90% of the students from both colleges elected to answer the poll questions. As

description of these locations Leuba (1933) writes:

> College A is of high rank and moderate size. Its students come from families divided in
>
> their affiliation between all the important Protestant denominations, and its spirit is
>
> probably as religious as the average American college. College B is, as to religion, much
>
> less nearly representative; it is definitely radical in its leanings (p. 298).

From his remarks it is safe to assume that College A, was to him, the sample population most

akin to the majority of colleges in the country.

Yet even if we accept the assertion that College A is an accurate model for the average

American college in 1933, there was still a precipitous drop in belief in God between the year

1914 and 1933. In total, only 31% of the students at College A and 11% of the students at

College B stated a belief in God. Also continued is the decline in the belief in God as one gets

closer to graduation, with a 14% drop in belief rates at College A and a 15% drop in belief rates in college B between freshman and seniors.

Modern surveys.

In 1996, Edward Larson and Larry Witham attempted to conduct a survey similar to that of James Leuba. They used the exact same questionnaire as the one originally written by Leuba for his research, and mailed it out to 1,000 names randomly listed in *American Men and Women of Science* (AMWS), the modern counterpart to the AMS. In 1997, the results were published in *Nature* and revealed that 60% of the scientists replied to the query, and that roughly 40% of working American scientists believed in God as defined by Leuba. In comparison to the 1933 survey results, the research of Larson and Witham, are within similar margins, suggesting little change in degree of belief in the past 50 years.

More recently, in 1998, Larson and Witham again attempted to as closely as possible repeat the methods earlier employed by Leuba. The researchers surveyed members of the National Academy of Sciences (NAS), in a truncated version of Leuba's research, this time seeking only "greater" scientists. The reason for the change from Leuba's original approach is that the AMWS no longer designates certain members as "greater". Surveys were sent to all 517 listed members in 1996, and the return rate was just over 50%. Overall the NAS scientists showed a 7% belief rate in God, with mathematicians the highest at 14.3%, and biologists lowest at 5.5%.

Research conducted by Ecklund and Scheitle (2007) identified the religious aptitudes of a variety of professional academics. The researchers selected faculty members at random from seven different disciplines, from the highest ranked universities as listed in the 2006 publication of, "Top American Research Universities" annual report. From the list 2,198 faculty members

solicited, a 75% response rate yielded 1,646 responses. In total 31.2% of those surveyed did not

believe in God, while 9.7% had absolute certainly in the existence of God. Furthermore, 51.8%

of the faculty members stated that they had no religious affiliation, compared to only 14.2% of

the general public. Interestingly only 13.4% of faculty asserted that they lacked a religious faith

while in childhood, suggesting that many academic researchers gave up their faith as they aged.

Table 2.3 Belief in God of research faculty

	Physicists	**Biologists**	**Sociologists**	**Psychologists**	**All Groups**
Disbelief	40.8%	41.0%	34.0%	33.0%	31.2%
Belief	6.2%	7.4%	9.0%	10.8%	9.7%

Source: Ecklund, E. H., & Scheitle, C. P. (2007). Religion among academic scientists: Distinctions, disciplines, and demographics. *Social Problems, 54*, 289-307.

There have been a variety of research projects attempting to assess the attitudes of college

students regarding religious and scientific beliefs. One study showed that in a large southeastern

university of the 111 students polled, 63.8% believed that life began on the earth as stated in the

Book of Genesis, and 16.4% asserted that the origin of life was an intelligent creator (Brazelton,

Frandsen, & McKown, 1999). Feder (1986) found that a sampling of students from a

Connecticut college yielded a 62.3% belief rate that God was the creator of the universe.

Research conducted by the Higher Education Research Institute (2004) found that

nationally 83% of college students assert to be associated with a religion. The 1999 National

Longitudinal Survey of Freshmen (NLSF) a data set of 3924 participants, which contains data

from an equal number of Whites, Blacks, Hispanics and Asian students from 28 colleges around

the country, lists that 87.6% of those students were raised within a religious tradition. The data

set also had students indicate their degree of religiosity on a 0 to 10 scale, if one uses a 4 or

higher on the scale to indicate moderate to exceptional religiosity, then 67.8% of first year

students would fall into that category, only 5.7 % of students indicate they had no religiosity.

Marin-Hansen (2008) reported that 37% of student in the study indicated apprehension or

negative feelings in reference to having to learn the topic of evolution. Many of these students

indicated that the logical conflict that evolution has with the literal teachings of the Bible are

difficult to reconcile. Yet even with such reports, the research of Bryant, Choi, and Yasuno

(2003) found that although students typically reduce the amount of time spent attending religious

services or discussing religion, they do increase their desire to incorporate spirituality into their

lives during their first year at college.

National Gallup polls.

The national Gallup poll has conducted multiple surveys attempting to establish a

national average for the number of Americans who believe in God. Most recently three surveys

were conducted, between October of 2005 and May of 2006, each with over 1000 participants.

With the results coming in at 73%, 78%, and 80% of those surveyed being convinced in the

existence of a God. Only 3%, 1%, and 3% of Americans surveyed are convinced that God does

not exist. The statisticians of the Gallup poll assert a 95% confidence interval and only a 3%

margin of error for all polls.

In addition, the Gallup poll conducted a survey from May 21-24, 2007 asking adults if

they believed in evolution. The results suggest that that 49% of Americans believe evolution to

be a true theory, 48% believe evolution to be a false theory, with 2% undecided. Level of

education was directly related to belief with 74% of individuals having a post-graduate education

believing in evolution, compared with 48% belief rate for those with only a college degree, and a

41% belief rate for those with only a high school diploma (Gallup, 2007). Only 18% of teenagers

believe that humans evolved from only natural means, while 38% of teenagers believe that humans did not evolve and were created in present from by God (Gallup, 2005).

Summary of survey studies.

Conclusions drawn from the survey data suggest that, statistically, individuals who are professional academics have a much lower chance of believing in God than the general population; the same trend appeared when examining formal education. Although in both cases precisely what is the cause of such an individual change of belief fails to be illuminated by the survey data. The data calls into question how the processes of being formally educated are related to an individual's change the way one thinks about the world. The data might also suggest that the types of individuals who would naturally be more questioning of religion are attracted to more advanced education paths requiring more time being spent in a university.

In addition, the survey data indicates that religious belief in the United States has been relatively stable for the past 80 years, for the both general population and for academics. Although there have been some shifts in percentages, the overall trend appears to be holding, and is unlikely to change suddenly. The drop in religious belief which was seen after the theory of evolution became widely accepted failed to escalate in America into all out atheism, but instead remains convincing to some people and lacking to others.

Furthermore, these studies suggest that it is not only the study of the hard sciences which causes a change in religious beliefs. Rather it seems far more accurate to assert that many academic areas of study have a direct impact on religious beliefs. The seemingly common assumption in the U.S. that the study of biology is the most damaging area to an individual's faith seems to be called into question by the findings of both the historical and modern surveys.

Research into Spiritual Belief Change

Humans have attempted to understand how religious beliefs function for hundreds, if not thousands of years. One of the first American psychologists, William James, explored issues of faith and belief in his classic 1902 text, *The Varieties of Religious Experience*. Yet given what is currently known, there still exist major gaps in our understanding of the psychology of spirituality, specifically how religious beliefs change, why they change, and what can be catalysts for change.

Falsetti, Resick, & Davis (2003) noted that if an individual lives through a traumatic life event, such as the death of a loved one, a major illness or accident, they are at risk to have either a disruption or alteration of the spiritual beliefs they held prior to the event. Results of data gathered from participants who had to deal with painful life events showed that 22% reported that their religious beliefs had been fundamentally altered and had remained so since surviving a traumatic event. Similarly, Albrecht and Cornwall (1989) found that when individuals had experienced positive life events there was a reported increase in the importance of religious beliefs, and conversely when negative life events were occurring there was a decrease in the importance of religious beliefs. Yet by no means is the evidence conclusive, research by reported Kennedy, Davis, and Taylor (2000), showed that while 20% of females who were victims of sexual assault reported a decrease in spiritual beliefs, 60% of those in the study reported an increase in religious beliefs.

In addition to examining how religious beliefs are changed by traumatic events, researchers have studied the use of science education as a means of modifying religious beliefs in the classroom. Loving and Foster (2001) describe an attempt to provide a cognitive intervention focused on the issue of compatibility between science and religion inside of a

graduate classroom. The researchers tested a treatment designed to aid in the conceptual change of the nine masters and doctoral students enrolled in a summer graduate course on educational issues, and found they could influence conceptual change in students.

The intervention began with the participants reading Mahner and Bunge (1996), an article which argues that science and religion are completely lacking in any sort of compatibility and that religious instruction should never enter into public education. Then after having read the article with no other information or discussion, the participants were asked to write a personal reflection essay based upon the reaction to the reading. Then later in the semester once each of the students had read many more of the articles in the special issue of *Science and Education* (Matthews, 1996), an edited compilation of articles arguing for and against the compatibility of science and religion, they were to write a position paper which argued on behalf of their views of science and religion.

Shipman, Brickhouse, Dagher, and Letts (2002) examined the type and degree of conceptual change which occurs when a student is exposed to a mild intervention on religion and scientific compatibility. The researchers followed the conceptual progression of students taking part in an introductory astronomy course. Some students in the study were purposefully selected to participate in interviews because they were science education majors. The treatment given to all of the students in the class was roughly a 38-minute in-class lecture on the compatibility of science and religion, an assigned reading of an article on the same topic (Shipman, 1995), and two written assignments. One assignment was to select and then defend an answer provided from a modified version of the views on science, technology, and society instrument (Aikenhead & Ryan, 1992). The second assignment was to provide written consultation to NASA regarding whether or not it was a legitimate use of resources to approve the funding of research to

determine the origin of life, or alternatively the origin of the universe. The researches found that the treatment encouraged roughly half of the students to engage with the issue of the compatibility of science and religion.

However, under critical inspection there are serious flaws in both of the science treatment studies. One major flaw existing in both of these research articles is the lack of a control group. Although clearly a difficult task given the original designs of the both research projects, yet without a control group present it becomes impossible to judge the true extent of the impact of the intervention. The reader needs to be able to see what impact the course alone might have had on the students without an intervention; the inability of the reader to see a direct comparison to a control group which did not receive the treatment creates far more questions than it does answers. Is it possible to judge whether or not, such metaphysical questions would naturally come to mind for the participants without the aid of an intervention? Such a critical design error undercuts the entire body of evidence provided by the research in both articles, and calls into question the conclusions based on such evidence.

As a whole, the body of literature is informative, yet incomplete and even contradictory. It seems as if some areas of research have been fully explored with consistency, such as models of conceptual change and the impact of tragedy on religious faith, and others have all but been abandoned, such as how faith naturally changes over time and cognitive change in non-scientific education. Whether or not education could have a direct impact on religious beliefs seems to be completely determined by the research that is viewed. Surveys show that religiosity drops with increased education, yet belief rates have been stable for the United States even after controversial knowledge such as evolution was included in national curriculums. *Cold* models of cognitive change show that naturally individuals should have a trend towards more logical

structures as they learn more about the world, indicating that learning could easily conflict with faith. Yet, *hot* models of cognitive change show that individuals fail to always be logical in their conceptions and can construct major beliefs on emotional reasoning.

There is enough evidence to suggest that there needs to be direct exploration to determine what individuals believe about their educational history and the impact it had on their spirituality. However it is also important to look beyond research into beliefs and focus briefly on the developmental issues which could influence this study.

Psychological Factors and Considerations

In dealing with any issues of cognitive change, within a specific group of individuals, it becomes important to consider the developmental stages which are most appropriate for that population. For research examining the impact education has on the spiritual or religious beliefs of individuals, identifying the most probable stage of development for the sample population is an important step in fostering measured and appropriate interpretations of the collected data. A sound understanding of the various theories of development will aid in the recognition of what impact, if any, personal development might have on the data collected. Therefore highlighted below are four areas of development: physiological, cognitive, moral, and identity which may play an important role in reason on belief change.

Physiological growth.

In dealing with late adolescents and young adults the physiological aspects of cognitive growth are in the final process of augmentation, or depending on age, in some cases have recently been completed. The brain is soon to finish the task of myelination; a process that causes the thickening the myelin coating, or insulating fatty phospholipids, which surrounds the axon extension of neuron cells. The process of myelination is slow and gradual beginning in the

months before birth and continuing beyond adolescence and into adulthood. This structural

change allows for faster and more efficient propagation of electrical impulses along the axon of

the neuron cells, and is associated with the advancement of many complex mental tasks

(Lecours, 1975). Different areas of the brain complete myelination at various times. Yet the most

advanced integrative systems, employed when attempting higher cognition tasks, start the

process of coating in adolescence and continue well into adulthood (Korner, 1991).

In conjunction with myelination, the prefrontal cortex, an area of the brain which is

largely associated with an individual's impulse control, and ability to logically reason, is

beginning to mature during later adolescence and into early adulthood (National Institute of

Health, 2004). This, the last area of the brain to fully develop, is integral in the ability to access

information from multiple areas of the brain and combine it to form complex and integrated

thought.

Cognitive development.

One theory which directly addresses cognitive stages of development is that of Jean

Piaget. His theory breaks the mental development of people into clear and distinct stages, which

are achieved in sequential order. Each stage contains cognitive benchmarks and characteristics

unique to the mental abilities of individuals during that phase of development. It might be

expected that the only stage within his theory which would be applicable to my proposed

research population would be that of formal operations; as it is classically conceived this stage

pertains to individuals who are above the age of 12, yet in reality both formal operations and the

prior stage, concrete-operational, need to be given full consideration as possible stages in which

the participants might be.

Although individuals can achieve formal operational stage near the age of 12, it fails to be in any way a guarantee. When we take into account the fact that different domains of thought function on different cognitive levels, even Piaget (1974) asserts that many adults only come to use formal operational thinking in limited areas in which their experience and understanding is substantial. While it is almost guaranteed that the participants will have reached the third stage of concrete-operations, due to the experiences of living within a physical world, research has suggested only roughly half of undergraduate students will be able to pass a battery of Piaget's formal operational experiments (Berk, 2005). Research by Capon and Kuhn (1979), found that often times adults fail to use formal operations in common practical tasks.

The concrete-operational stage is largely focused on understanding that the interactions which take place in the physical world have a logical basis. It represents the progression from being influenced by simply what seems to be the case, to what must logically be consistent. The key concept which exemplifies this stage is that of conservation, the understanding that an entity remains the same regardless of a change in appearance or form. Piaget contended that such understanding served as the foundation of all logical thinking (Piaget, 1965). Yet the ability to think logically in this stage is strictly bound by the immediate experience of objects and events, hence the title of the stage as concrete. Individuals within this developmental stage need concrete and direct experience with something to derive logical conclusions about it.

Upon entering into formal operations, the final stage in Piaget's theory, the mind can shift from dealing with a subject solely by the current and physical realities which it exists in, and enter into a hypothetical or imaginary manipulation of the topic. From this point forward individuals no longer limit their logical conclusion by employing only known facts, and instead can generate hypothetical arguments and lines of reasoning based on possibilities which may be,

rather than what currently is. This new cognitive ability was labeled as hypothetico-deductive reasoning by Piaget, and in this regard a thinker can postulate about ideas which have yet to be experiences or concepts which are logically inconsistent to her current beliefs. Interestingly, research by Lehman and Nisbett (1990) suggests that completing a college course may cultivate formal operations in that subject, however such gains often fail to be transferable to others areas of study.

While the changes that Piaget had described are seen in children, most researchers question the stage model (Miller, 2002). Often children will exhibit new behaviors or skills intermittently over time suggesting that children do not cleanly fit into one stage or another; Fischer and Pare-Blagoev (2000) suggest that gradual developing changes can suddenly manifest as bold alternations in behavior, and give the appearance that an abrupt transformation has taken place.

Although Piaget's four stages are seen as a highly important contribution to the field of developmental psychology, researchers have since found significant flaws in the theory. Piaget for one grossly underestimated the abilities of children, some of whom can perform tasks at the level of formal operations with clarified instruction or training (Adey & Shayer, 1992; Danner & Day, 1977; Slater & Kingston, 1981; Stone & Day, 1978). Furthermore, the developmental growth of children seems to be based on mechanisms which are far more variegated than Piaget described (Case, 1992, 1998; Courage & Howe, 2002), children can display advanced formal thinking in one area, and then highly concrete thinking in another. Research by Chi (1978) found that children who are expert chess players can think abstractly about various game moves, and beat adult novice players, which should be impossible within the rules of Piaget's original theory.

Moral development.

Another important area with which to consider the possible cognitive stage of participants is that of their moral development. With religion and spirituality often providing a benchmark for an individual's moral judgments in life, it is necessary to take note of how their moral reasoning might be contributing to the acceptance or dismissal of religious beliefs. A highly respected theory of moral reasoning comes from Lawrence Kohlberg, who building off of Piaget's work established a staged theory of moral development.

Kohlberg divides moral reasoning into six ascending stages according to how one orientates their explanation of moral dilemmas. Every two stages are then combined into a unique level in which both stages share commonalities of judgment. The first level, preconventional moral reasoning has individuals making moral decisions based on what is best for them personally. The second level, conventional moral reasoning is based on social standards, whether that is agreements between friends, cultural norms, or governmental laws. The third level, postconventional moral reasoning is centered on independently developed universal principles of right and wrong which have the ability to transcend the laws of a society (Kohlberg, 1975).

Carol Gilligan (1977, 1982) asserted that Kohlberg's work on moral reasoning was gender biased, due to the fact the group he used to develop his theories were all male. Gilligan argued that men and women develop different moral orientations, with females focusing more on interpersonal obligations of morality, and males judging situations as conflicts of interest between individuals. Gilligan suggests that the difference comes from the disparity between how boys and girls are socialized, boys towards justice and girls towards care.

However, more recent studies have suggested there is little support that Kohlberg's theory is gender biased. Scoring participant responses by the criteria developed by Kohlberg, the moral judgments of men and women prove to be equality reasoned (Jaffee & Hyde, 2000; Walker, 1995). Walker and Pitts (1998), found evidence that both women and men believe that care and justice to be key elements of morality. Research also suggests that there is a minimal divergence with regard to how boys and girls are socialized toward moral issues (Lollis, Ross, & Leroux, 1996).

As a whole, the body of research into moral reasoning supports Kohlberg's views that moral reasoning contributes to moral behavior. Studies with pre-teens, adolescents, and young adults indicate that individuals who are at high levels of moral reasoning are more likely to behave in morally conscientious ways, than individuals of lower moral reasoning (Judy & Nelson, 2000; Midlarsky, Kahana, Corley, Nemeroff, & Schonbar, 1999; Rest, Narvaez, Bebeau, & Thoma, 1999).

It would be hard to accurately state to which level the participants moral reasoning might be on, for Kohlberg states that normal cognitive development, maturation, or socialization have no influence over moral development (1981). Rather moral development occurs solely through the process of analyzing moral problems, instead of by any direct means of standard education. While Kohlberg does suggest that a curriculum could be established around debating moral dilemmas, with a teacher serving as a moderator, in order to help individuals begin to clarify their value systems, such a curriculum system would currently be a rarity in American public schools. However, in regard to such an assertion it becomes probable that the level of moral reasoning displayed by any individual will fail to be denoted by age or educational background, but rather the amount of personal reflection which has been given to the topic.

Furthermore, there exists a community of academics who see potential value in actively attempting to teach morality, also called character education, to students in a classroom setting. These programs are designed to foster moral development through curriculums embedded with subjects such as moral dilemmas, ethics, and civic responsibility. For a summary of character education in the United States and an overview of various program designs see Leming (1997). While the movement has waxed and waned over the years, it has yet to be integrated into mainstream educational practices due to a fundamental disagree over what character is, the lack of batteries to test characters, and inconsistent data from research studies.

However, in some areas of the world, particularly in the Middle East, the notion of overtly teaching morality within an educational setting is widely accepted as common practice. Traditionally, those who follow the Islamic religion are required, as a main tenet of the faith, to become scholars of the world by undergoing formal schooling; in the region various educational policies have been adapted for fulfilling this religious requirement (Hatina, 2006). Saudi Arabia, in particular, follows *Sharia* law which dictates that belief in Islam is a compulsory part of its educational system and has a wide array of religious schools which combine moral, curricular, and religious education (Thomas, 2006). After September the 11th 2001, the U.S. government began to openly question whether such methods of education can be used as means to indoctrinate individuals to become future terrorists, and helped to develop and promote the creation of re-education facilities to augment the beliefs of potential terrorists (U.S Department of State, 2009). The possible implications of such a re-education policy are deliberated in regards to the findings of this study within the discussion chapter.

Identity development.

Another important element to consider as a factor of influence for the proposed population to be studied is that of identity. The image that individuals construct of themselves can provide a great deal of information to a researcher. More specifically for this case, examining an individual's spiritual identity could be just as valuable when attempting to determine how education may have played a role in shaping their current view of self. As a researcher being open to and even directly asking about the participants' spiritual identity may provide a wealth of information.

A theory of identity proposed by James Marcia (1980), places an individual into one of four possible stages of identity development: diffusion, foreclosure, moratorium, or achievement. Each stage has a profound effect on the way an individual views herself as well as being a predictor as to how influential new ideas will be to the individual. Although the theory as a whole applied to an overall sense of identity, it can easily be applied to specific attributes such as spiritual identity, which helps to make up the larger whole.

Research suggests that identity formation typically takes a great deal of time, with individuals beginning to reach identity achievement in late adolescence to early adulthood (Kroger, 2000; Waterman, 1982). It is important to note that different areas of an individual's life, such as religious beliefs, sexual orientation, political beliefs can each be a form of an independent form of identity. Therefore individuals can reach identity achievement in different areas at different times (Archer, 1982). Even individuals well into adulthood can be grappling with the issues of identity, especially after a dramatic change such as a death of a loved one (Waterman & Archer, 1990). Identity can be questioned when has situations changes, exposure to new alternatives, or has viewpoints challenged (Kroger, 2000).

Whichever stage of identity a participant is in will be highly valuable information in understanding the personal history and development of her religious beliefs. Diffusion would indicate that the participant has thought very little about their religious identity and as such would most likely be less helpful for the goals of the proposed study. Identity foreclosure would suggest that an individual had strong religious pressures to conform to from either her family or community, and became dedicated to a set of beliefs without having considered others first. Moratorium would suggest that the participant is currently searching for a religious identity, she has shed a previous form of spiritual identity and is actively trying new spiritual paths to determine which best suits her. Finally, the most valuable participant will be the one who has reached identity achievement. In this case the individual will have explored other possible religious avenues and settled comfortably on the one which is the most compatible. These participants would be able to provide a full account of their spiritual journey from beginning to end, explaining with hindsight the causes and influences of their spiritual development.

CHAPTER 3

METHODOLOGY AND METHODS

Research Questions

Research suggests that when an individual becomes more learned in an academic field, the probability of that individual sustaining religious belief decreases (Ecklund & Scheitle, 2007; Larson & Witham, 1998; Leuba, 1916; 1933). These studies have been survey in nature, and while describing this phenomenon, fail to begin to explain how or why such a shift in belief occurs. Despite our lack of understanding, legal battles between religious organizations and school systems in the United States continue over a variety of issues stemming from the perception that certain types of knowledge and religion are in conflict. Therefore the goal of this research design is to explore the reasons behind the statistical decline of religious belief with increased education.

Research suggests that there are types of information which can influence religious belief. As an individual continues to learn more though schooling that individual becomes more likely to have been exposed to such information. This assertion is a product of the assumption that certain facts or methods of problem solving may be modifiers of religious belief. In this case, what is taught in school serves as either the catalyst for, or cause of, belief change.

The primary research question guiding this study is what influence does education have on students' spiritual and religious beliefs? Supplementary questions to be explored:

What types of information are identified as having caused augmentation of religious beliefs? Do individuals who have similar spiritual beliefs also have similar historical profiles? Do different religious and spiritual belief systems respond differently to education?

Research Design

The research design of the study is based on a qualitative methodology taking the form of one-on-one personal semi-structured interviews between the researcher and the participant. The goal of this design is to explore the stories of how an individual's education history and spiritual beliefs have interacted throughout that individual's life using the method of in-depth personal interviews.

Interviews have long been used as a core method in the field of qualitative research, stretching back to the very first accounts within the literature in which methodological design was included as a part of the study write up (Malinowski, 1922). Seidman (2006) asserts that, "Interviewing, then, is the basic mode of inquiry. Recounting narratives… has been the major way throughout recorded history that humans have made sense of their experience" (p. 8). Interviews have been established as an effective method to gain information and insights from another individual's experiences.

For this study, the personal interviews were conducted with 18 participants who were selected through snowball and volunteer sampling attempting to establish a heterogeneous sample, with regards to spiritual beliefs (see Appendix A for short descriptions of the participants). In-depth interviews of roughly 35 to 75 minutes were conducted with each participant, during these conversations the participant was asked to reconstruct their educational experiences, their progression from early religious and spiritual beliefs to their current beliefs, and what impact they believe their learning had on any change in spiritual beliefs (see Appendix

B for interview protocol). The format which was used throughout the discussion is inspired by the semi-structured interview tradition of Merton, Lowenthal & Kendall (1990), which allows for questions to be asked non-sequentially so that they can best fit into the natural flow of the conversation. Each of the interviews had the audio dialogue digitally recorded as a means to secure data provided from the participant, in addition to detailed field notes being taken by the researcher during the interview.

Participants

The aim is to investigate what role education has on the spiritual beliefs of students; therefore the most direct method of learning about the topic is to sit down and talk with individuals who have had a prolonged exposure to formal education, and provide an opportunity for them to reflect upon the spiritual development each has gone through. There is no pre-specified participant pool, such an open stance is believed by the researcher to be acceptable due to the ubiquitous nature of both spirituality and education throughout the world. It is therefore expected that virtually all individuals, who would want to participate, would have had at least a minimal experience, with both education and spirituality during the course of their lives, as to qualify them as a meaningful addition to the study.

Therefore with such goals in mind, the sample population for the interview study consisted of participants who are graduate students or faculty at the University of Georgia. This population represented a wealth of lived experience within educational systems, both locally within Georgia public schools as well as other institutions around the United States and abroad, and a thriving spiritual community as noted by the high number of student and faculty religious organizations represented at the university.

Table 3.1 Summary of participants

Name	Gender	Age Range	Education	Childhood Beliefs	Current Belief
Amber	Female	Late 20s	Ph.D. Can.	Catholic	Christian
Amy	Female	Mid 20s	Ph.D. Can.	Catholic / Methodist	Spiritually Christian
Ann	Female	Mid 20s	Ph.D. Can.	Agnostic	Agnostic
Brian	Male	Late 20s	Ph.D. Can.	Baptist	Agnostic
Derek	Male	Early 30s	Ph.D.	Jewish	Agnostic
Emily	Female	Late 20s	Ph.D. Can.	Christian	Christian
Jonathan	Male	Late 50s	Ph.D	Agnostic	Christian
Julie	Female	Late 20s	Ph.D. Can.	Presbyterian	Spiritually Christian
Jen	Female	Mid 30s	MA.	Catholic	Zen Buddhist
Mike	Male	Mid 30s	Ph.D.	Mormon	Pantheist
Molly	Female	Early 30s	BA.	Catholic	Spiritually Catholic
Robert	Male	Early 30s	Ph.D. Can.	Jewish	Spiritually Jewish
Sally	Female	Early 30s	BA.	Jehovah's Witness	Spiritually Jewish
Sean	Male	Mid 30s	Ph.D.	Agnostic	Christian
Thomas	Male	Late 20s	Ph.D. Can.	Catholic	Catholic
Tim	Male	Mid 60s	Ph.D.	Christian	Presbyterian

Participants were recruited through fliers placed around campus on bulletin boards,

recruitment e-mails, as well as word-of-mouth through the assistance of friends, colleagues, and

faculty members asking individuals whom they believed might be interested if they would be

willing to volunteer some of their time to discuss their religious, spiritual, and educational

history. Out of the individuals who volunteer to participate in the study 18 were selected to be

interviewed, however the data was used from 16. One of the participants failed to provide

enough data during the interview for coding, and the second participant chose to end the

interview before completion. As a prerequisite to volunteering, individuals were asked to provide

basic descriptive data such as age and gender, in addition to the spiritual beliefs they were raised

with and spiritual beliefs they currently hold. The selection of volunteers was based upon the

descriptive data that the volunteers initially provided; although originally the selection of participants was going to be based on the goal of achieving a diversification between participants with regard to the spiritual beliefs individuals began their education with, as well as the spiritual beliefs they now hold, it was found that this step was unnecessary. While the procedure of purposeful selection was going to be used with the aim of preventing a homogeneous sample of individuals with the same spiritual beliefs, gender, or age, the individuals who volunteered to participate created a wide diversity in the sample prior to any intervention by the researcher.

Data Collection and Analysis

Interview data were collected as hand written field notes by the researcher during the interview, as well as in a digital audio file recording the conversation of the interview. The researcher wrote down specific topics or points of interest which are mentioned by the participant during the interview, enabling follow up questions or simply providing lines of further inquiry with later participants. The hand written notes during the interview were later typed into formal field notes summarizing the thoughts of the researcher for each interview. Field notes are often considered an important element of the interviewing process even when audio recording equipment is being used to create a record (Emerson, Fretz, & Shaw, 1995). Field notes can be used to support validity by noting situational occurrences, such as sudden change in body posture or facial expression otherwise missed by audio recording equipment alone.

In addition, each participant was digitally recorded by the researcher capturing the discussion which unfolded during the interview. Each audio file was then saved and later converted by hand into a typed transcript. Each transcript contained not only the words spoken

during the interview, but also all audible verbal and non-verbal cues, such as laughter, sighing, pauses, etc., which could be used during the process of coding and interpretation.

The interview data collected were explored using two distinct analytical approaches. The first analytical approach was used to find themes and patterns within the data, so that they can be converted into basic descriptive codes; a technique which is a hybridization of elements from the grounded theory approach as proposed by Strauss and Corbin (1990), Bogdan and Taylor (1975), as well as transcript analysis suggested by Pomerantz and Fehr (1997). The research typed data provided by the participants should yield highly codeable source which focuses on finding the repetition of important themes or ideas within the body of data. Through careful analysis data provided some clear themes and concepts relevant to the how education has impacted the participant's spiritual beliefs and how the process of change may have occurred.

The focus of this analysis is to extract content from the data, by inductively coding various elements into distinctive categories. As the analytical phase of the research project advances, the developed categories are combined, discarded, or refined in order to distill recognizable patterns of meaning from the raw data. These finalized data categories were then viewed in light of the original research questions as a means of testing the proposed hypothesis and allowing a deeper understanding of phenomena. The selected hybrid analysis approach also allowed for the coding of outside material, such as important identities and relationships to the participant, which are typically excluded by more traditional conversation analysis techniques. The main benefit that this form of transcript analysis has over others is the specific attention paid to the references and terms used by the speaker, as well as the importance of the identities, roles, and relationships between the speaker and others expressed during the interview.

The second analytical approach used to interpret the data is that of a thematic narrative analysis (Riessman, 2008). In this method of analysis, the entirety of the story which is told by the participant is used as the basis for interpretation. Instead of fracturing the transcript into smaller units of data from which to develop codes, general themes, symbols, and story arcs that are a part of the participant's whole description are used. The entire story then is used to either highlight a specific case study which serves as an exemplar to a particular event, or is used to develop overarching patterns of cause and effect which can then be compared against other stories to determine if they follow a similar progression of events.

Validity and Credibility

An important element to the credibility of any study is the potential richness of the data (Maxwell, 2005). I believe that in allowing participants the time to sit down and reflect upon the interactions, which may have occurred, between their educational history and their spiritual development, will provide a forum in which the participants will have the opportunity to respond in great depth and detail. Perhaps for the first time these participants will be asked to present the story of how an element of who they are was formed. I believe that allowing substantial time to converse on such an integral part of who a person is, has the potential for a diversity and thoughtfulness of response which will add to the collective richness of the research data, and in turn increase the credibility of the study. Data of this type according to Becker help to, "counter the twin dangers of respondent duplicity and observer bias by making it difficult for respondents to produce data that uniformly support a mistaken conclusion… as they make it difficult for the observer to… support his prejudices and expectations" (1970, p.53).

Furthermore, an issue with trustworthiness in almost all research is the possibility of deception. While it can be difficult to detect willful attempts at deception by a participant or even

less severe attempts by participants to exaggerate their experiences, there are methods which can mitigate some of the dangers. It is possible throughout the interview to check for internal consistency by rephrasing questions which have been previously answered by the participant (Seidman, 2006). Such an approach, if used in subtle matter, requires the participant to retell a segment of their story over again. During this period of repetition the researcher is provided the opportunity to compare and contrast the two accounts given by the participant; if the two accounts diverge too far from each other they serve as a red flag to alert the researcher that there may be an attempt at deception. In addition, with face-to-face methods of communication, it becomes possible to recognize participants who desire to mislead by vocal patterns, facial expressions, and body posture. Although perhaps not as easy to employ as checking for internal consistency, an observant researcher can note within the field notes periods of time during the interview which seem suspicious. Credibility in regard to the interview questions was addressed through the use of an interview protocol.

Subjectivity Statement

No research is immune from the subjectivities of the researcher who is conducting it; all individuals come into a situation with beliefs and values which at least inform their judgments and decisions. Even with the purpose of this study being to examine the impact that education has on religious beliefs, I will have to take extra care to ensure that the data maintains a clear voice and is not tainted by my *a priori* beliefs. Therefore, as both a courtesy to the reader and in hopes of improving the design validity of this study, I have gathered the biases of which I am aware of towards my research, and have placed them on display.

To begin with, I associate myself with a positivist theoretical perspective within the field of qualitative research (for a review see Crotty, 2003). I strongly believe that there is an objective

truth to reality, and it is therefore the duty of a researcher to explore issues with an attempt to improve our understanding of that truth. Whether or not, we as humans can come to understand that truth is unknown, yet I believe seeking such truth is better than any alternative.

In addition to my ontological beliefs, I approach all of my research from the philosophical framework of functionalism inspired by the work of William James (1904), and more formally discussed by John Dewey (1929). Such a framework can be used to assume that certain psychological mechanisms have a functional or practical purpose in the life of people. These functions should clearly take the form of a benefit to the individual, and should be improving the quality of life for that person. Therefore in analyzing the data I will be interpreting the data provided by the participants for functional meetings. To this end it would mean that the educational and spiritual beliefs will serve utilitarian purposes in the lives of individuals interviewed; discovering what functionality these beliefs have will be of primary importance. In understanding the function of a belief one can consider underlying motivations for maintaining or discarding beliefs.

Furthermore I would be remiss in failing to mention that I believe that scientific and psychological education should be a core element of all public education. I believe that the advancement of the sciences is, for the most part, to the betterment of all mankind, and that children should be encouraged to study and explore a variety of scientific areas. In that regard I see science, and therefore science education, as a fundamentally critical part of a society and one that is often over looked. Although math and English are greatly pushed as the most important subjects, there is a strong argument to be made for science as having the strongest influence on the shape and direction of a civilization.

In addition, the idea that an individual would reject any type of education and specifically a scientific understanding of the world in order to more comfortably observe the teachings their faith is personally troubling to me. I do believe in evolution, and agree with the scientific community that it alone should be taught as the primary theory of how life originated on earth. The idea that creationism should be taught in a scientific classroom, as a competing theory to evolution, is in many ways frightening to me. I strongly believe in the separation of church and state, and along this line I believe that religious doctrines should be kept out of public school curriculums.

Limitations

There exist a variety of limitations for the proposed research design, some of which are logical realities of employing the method of interviewing, such as the extensive amount of time needed for the interview process, the quality of the interview data being largely based on the skill of the interviewer, as well as the a lack of incubation time for participants to generate a thoughtful answer.

A limitation of this research design is that quality of the data is largely based upon the interviewing skills of the researcher. Typically data is seen as something separate from those who are conducting the research. In such cases the researcher expertly uses tools to uncover the data in which he or she is interested. However, with interviewing, the researcher serves as the primary tool for extracting information from the participant. Often times the amount and quality of the data is directly related to how adept of a communicator the researcher is. Therefore this research design fails to be self-sufficient; it is unable to be effectively implemented by a novice qualitative researcher.

An additional limitation of using interviews to collect data is that it could unintentionally exclude some participants from providing an articulated and well thought out response to posed interview questions. Some individuals find themselves unable to express complex thoughts or experiences without time to first gather and organize their reply. For such individuals the process of interviewing could in fact dilute the quality of their responses, as normal conventions of speech only allow a certain amount of time before silence becomes awkward. While a skilled interviewer can compensate for such a situation by attempting to provide more time for the participant by tolerating silence (Seidman, 2006), the researcher must be aware that some individuals will eventually be at a loss for words in the given situation, and valuable data could be lost.

CHAPTER 4

RESULTS

The process of telling a story is, in many ways, a symbolic recreation. One of the main purposes it serves is to function as a representation of a series of events. It is by these symbolic recreations of events that the experience of one person can be effectively conveyed to another individual. In some cases the actual occurrences of the event are over shadowed by more dramatic substitutions; typically taking the form of additions or exaggerations used for the purpose of improving the tale. While some might argue that researchers are charged with seeking a purely factual truth, or a story which simply represents "what happened", I would disagree. The study of memory has yielded data which suggests, that we as humans are far more fallible in remembering the factual details of the events which have happened to us then we would ever feel comfortable admitting (Loftus, 1996). From eyewitness testimony to oral traditions, often the specific words used to describe a series of events are simply verbal placeholders which could be interchanged with differing terms while still retaining the same symbolic meaning of the story.

Therefore, it would be a mistake for me to speak on behalf of the factual validity of each of the stories I have been told. I wasn't there when these events happened, even if I was, who is to say what I would remember. However, it is my belief that every story which was told to me by a participant was symbolically accurate, in that the essential elements of each individual's past which are important to them were conveyed, even if those elements had been possibly symbolically edited, abridged, or substituted. What follows are personal accounts of spiritual belief change which have been cobbled together from the different stories of sixteen participants;

I have attempted to create a holistic argument from their words with the purpose of answering the research questions of this study.

On the Presentation of Results

It was the aim of this study to determine what sort of influence formal education has on the spirituality of those who have been students. In attempting to answer the research questions formulated for this study, I have interviewed participants and listened to their stories of how the spiritual beliefs they have were originally formed and have consequently developed since; all in an attempt to understand how each individual has come to possess their current spiritual beliefs, and what role education had played in the overall process of their belief development. Then, after listening to all of these stories, I attempted to distill some essential thematic commonalities which had run through many of the interviews I had conducted.

It is from these similar patterns of life events that I have constructed the following answers to the research questions. To aid in the presentation of the findings, I have used the basic literary narrative outline as a guide to understanding the stories I was told. These outlines typically follow the pattern of establishing a setting, a complication, leading to conflict, then finally resulting in a resolution. I have formatted these answers so that a summary argument is made providing a framework for results, and then is broken down into individual points which are supported directly by large blocks of narrative told using the participants own words.

Rudimentary profiles were created for each of the participants quoted in the results section, with every profile being founded on the personal history provided by the participants during the interview process. The profiles are located in Appendix A. The aim of these mini-biographies is to offer the appropriate tone and background for the words of each participant,

highlighting the unique experiences of the participants and providing a greater context for how they have come to have their current beliefs.

An Overview of Findings

For the majority of the people that I have interviewed, it is clear that education has played a role in the development of their spiritual beliefs. If we consider the fact that the majority of the sample population which participated in this study have selected to seek advanced degrees, and have spent a large portion of their lives in an academic environment, it is only reasonable that such dedication to academic studies would help to shape who they are and the beliefs that they hold. Individuals often expressed to me how the incorporation of new knowledge into their existing belief structures about the world would serve as the impetuous to begin the process of altering their former beliefs. Given that exposure to novelty in the form of new experiences, ideas, facts, and theories, is perhaps the only way belief change can naturally occur; therefore education, a process designed to increase one's knowledge, should logically play role in how beliefs are developed and maintained.

However, what is surprising is that the nature of the influence education has provided for these individuals is one of a supporting role, rather than being a cause or catalyst for belief change in and of itself. While most people seemed to mention education, it was often stated in a secondary role, or as a follow up to another more significant reason. In other words, the teaching of factual information in the classroom, at least in the stories I was told, failed to be sufficient for spiritual belief change in isolation of other more significant factors. Instead those stories suggested that, for many people, life experiences are the primary catalysts for spiritual belief change. Life experiences, much more so than factual knowledge, was cited as the source which caused the first cracks in the foundation of previously established spiritual beliefs. These

personal experiences in a sense sow the seeds of disequilibrium, causing a questioning of some

or all of a spiritual doctrine. It is from that point onward education then has the ability to provide

the support for belief modification or change.

Below is a frequency table noting the major themes coded in the participant data. These

themes formed the foundation of the arguments made in this chapter.

Table 4.1 Frequency of thematic codes

Theme	Frequency
Spiritual beliefs established by family in childhood	16
Life experience as catalyst for belief change	13
The use of education after catalyst occurs	11
Moving towards a personal spirituality	8
A greater tolerance towards others	6
Examples of domain specific beliefs	3

Out of the data that I have collected, I would argue that there are two central reasons that

factual knowledge presented in educational settings, in absence of any other factors, seems to fail

in producing a strong drive for cognitive change in the area of spiritual belief. First, there is a

wide array of diverse information which is easily accessed and is available to be used in the

construction of arguments either for or against any spiritual belief system. Given the

complexities of the world and availability of contradicting information it seems that one

particular fact may be either diminished in its capacity to influence a belief set as a whole, or can

be easily dismissed, based on alternative information which supports an alternative set of beliefs. Second, for most individuals the methods by which spiritual beliefs are first encoded into memory are often extremely experiential and personal in nature. In the many cases in which spiritual beliefs stem from experiences, the beliefs appear to be far more protracted and hardened against change, than are other types of beliefs which have been based on purely intellectual or theoretical ideals.

None of this is to say that education fails to be a critical factor in the process of spiritual belief change; drawing such a conclusion would be both unfounded and rash given the evidence in this study. Rather it is better to think of the relationship between spiritual belief change and education through an analogy of how fire is created. Experience is what causes that initial spark leading to flame, and the amount of knowledge that one has gained through education serves as the fuel for the combustion. Both elements need to occur in order for the reaction to happen, yet only one of them can act in a causal role. It would be possible for an individual to have plenty of fuel, but never get a spark, just the same as it is possible for another person to have a spark, but fail to have enough combustible material to generate a fire. A few of the participants openly questioned what spiritual beliefs that they would hold today if they had received differing quality or quantity of education, or experienced a different course of life events.

The Rudimentary Beginnings of Spiritual Beliefs

It has been hard for most of the participants to determine at what point their spiritual beliefs began to develop, but one thing is sure, the process begins at a young age. It is clear that parents or guardians are the primary influence at such a young age, they are the ones who decide to either emphasize the beliefs of a particular religion, a set of spiritual principles, or elect to emphasize a more naturalistic and scientific approach to the world. Every one of the participants

identified their family's influence in their childhood as being the foundation of their spiritual beliefs. In some of the interviews I was told that spiritual beliefs were set in motion at such an early age that the participants were unable to tell me exactly when their beliefs started to develop. It seems fair to say that rudimentary beliefs in a particular set of spiritual beliefs, including those of non-belief, often begin before even formal schooling has started for most children. However, most of the participants indicated that, while the roots of their beliefs were started at a young age, their personal interest in exploring their spiritual beliefs often did not begin until early adolescence, paralleling established notions of identity development in youth.

In some cases families provided their children the choice over whether or not they wanted to further their study of religion. In the case below Derek comments on his parents being open in the types of choices he was given involving whether or not he had to participate in religious activities:

My family, my father was somewhat religious, and then had a rift with the synagogue for some reasons that I don't remember, my brother probably knows, because it was probably over him breaking something, that is usually how things started. And then I was offered the option to go to Hebrew school or go to the boy scouts and I chose the boy scouts because we didn't have a very strong religious center, I guess in my family. It was obvious that my parents believed in God and were sort of active Jews in the concept that most religious people are active, like you know, the Christmas Easter Jews (Derek, personal communication, January 12, 2009).

While some parents are open to their child being able to choose their own level of involvement in various religious activities, for other parents being active in a local religious organization is rejected outright as a possibility for their children. These parents actively attempt to steer their children away from the influences of religion altogether and avoid participating in many of the ritual or social aspects of a faith. The specific reasons for why they would pressure their children to ignore the influence of religion may vary; however one story which was presented suggested that his parents believed that religion can be dangerous and harmful:

> My family both came from very strong religious backgrounds, and had seen themselves as being damaged by those backgrounds, so my parents deemphasized religion. They never practiced anything formally, never asked that I practice anything formally, and it really just didn't impact my life at all. I grew up in, the city I grew up in was the home to a large televangelism ministry in the 70s and 80s, so it was definitely part of the culture of school I went to, was very evangelistically Christian, the culture of the city I was living in was pretty evangelistically Christian, so a lot of what I thought about religion through that process was negative or antagonistic, so really not much at all (Sean, personal communication, February 6, 2009)

However it seems that most of those who were interviewed had parents and guardians who both chose to involve them in religious activities from a young age, as well as continue to encourage them to actively participate in some form of religious devotion as they matured. Amber describes how she followed the model of her grandmother in learning about her faith:

Let me go back to when I was really young, my grandmother is Catholic and my mother

is Catholic, and they are both staunch Catholics, if you know what I mean by that, my

grandmother is more staunch than my mother. I would say that she has always been the

prayerful type, praying the rosary and kneeling on the floor and just praying for her

grandkids and her children. So when I was a kid, I used to go to the Catholic church with

my grandmother although I was baptized a Methodist, because my father is a Methodist,

but because I lived with my mom, and my grandmother took care of me, I pretty much

grew up knowing that church was like the way to go if you have problems, so that is what

I did I learned in from my grandmother (Amber, personal communication, March 30,

2009).

Another participant, Molly, talked about how what she had been taught about the

Catholic religion at a young age continued to influence her views on spirituality today. Even as

she grappled with the notion that it was possible that the spiritual ideas she resonates with may

be due to an early indoctrination towards one particular faith, rather than any deeper singular

truth which Catholicism holds over other religions.

I was raised Catholic and went to Catholic school through eighth grade, and I would say

that because of that Christianity, is sort of the story that I was fed, and I guess I still do

identify with it, I wouldn't, I'm conflicted sometimes I identify myself as a Christian just

because my beliefs, I still buy into that story, even if I can buy into other stories, I still

identify with that story, maybe because it was sort of drilled into me at an early age, it is

almost like remembering a first language in a sense. (Molly, personal communication,

January 12, 2009)

Yet sometime even with parental influences directing a child towards a particular faith, other factors come up which alter the direction of a young person's spiritual development. In the case of Amy, she became more interested in going to different services than her parents because of purely social reasons. By going to various functions that were provided by a local church Amy was provided an opportunity to bond with friends.

For the most part it just based on how I was raised, so like I grew up going to church, I was raised Catholic actually, and that, I don't know if that is necessarily, I think maybe that's why I am not Catholic now, because if I had to classify myself right now as far as my spiritual beliefs or my religion or whatever. I would, I mean I'd say I am a solid Christian, but I don't know if I would identify with like a specific denomination, but anyway I was raised Catholic, but more so what made me who I am today, as far as like what I believe, and what believes I hold to be really strong, was more so the years after I left the Catholic church. I went to a Methodist church solely because my friends were there, and it was like the fun thing to do on Sunday nights, was to go to choir practice or whatever like different parties and stuff. So that is what got me to the church in the first place. (Amy, personal communication, 2009)

Others who participated continued to emphasize how the role of religion in their lives became

stronger as they matured into adolescence, and began attempting to construct their future

spiritual identity.

> It wasn't very important to me until I was a teenager, I was raised going to church, we
>
> went to different denominations, we went to a Methodist church for awhile, and then I
>
> feel like we went to different denominations, I was never even aware of what we did.
>
> Until my parents settled in Mississippi, we started going to a southern Baptist church,
>
> and just the nature of the way that, I don't know, it could have just been that I hit puberty
>
> at that time and, you know, the church tried to aggressively to prevent us from having
>
> sex, and so they laid this major guilt trip on us, it could have just been like the age that I
>
> entered into the church. But I really think that, that religion, did have a much heavier sort
>
> of like guilt and fear kinda M.O. and I was a sensitive kid, and it definitely, and sensitive
>
> and naive, and definitely bought into this and totally believed that adults, I was that kid
>
> that saw adults as powerful and knowing and when you are an adult you know what
>
> you are talking about, and so I totally bought into this, and was strongly affected by it,
>
> and considered myself a born again Christian, for a few years at least. (Brian, personal
>
> communication, April 6, 2009).

Although clearly each of the stories presented was unique in how it unfolded, there are

commonalities which can be seen running through the different narratives. The earliest beliefs

regarding spirituality appear to first develop in young children, and are largely determined by

how individuals are raised by their parents or guardians. The beliefs and values which are

esteemed by the parents are often passed down directly to the children, and becomes the foundation for their juvenile spiritual belief; whether that be a strong religious devotion to a particular faith, a general spiritual outlook regarding the world, or even a scientific view which is focused on evidence based, rather than faith based, belief systems. After childhood comes to a close and adolescence begins, a new social element can exert influence over the direction of spiritual beliefs. The desire to hang out with friends or participate in religious social gatherings can become a factor in shaping the spiritual beliefs of youth.

Therefore the first important element for each of the stories can be described; there is the establishment of the setting before the story begins. In each of the stories the participants began by describing the setting which, as seen above, mainly consists of the type of spiritual beliefs which were instilled in the participant at an early age, and the various reasons which lead to those beliefs begin. This type of historical overview provides a solid context for describing any changes which may have occurred later.

The Causes of Complication

Each of the participants was asked to tell the story of how they had come to have their current spiritual beliefs. Most of the participants were willing to share with me a detailed account of how their beliefs had developed over time, and in that account describe any of the fundamental changes which had occurred to their spiritual beliefs, if any had occurred at all. In telling their stories the participants often provided a narrative which highlighted the significant factors which had played an important role in the progression of their spiritual belief development. Given the prior statistical research studies which had correlated higher levels of educational experience with a lesser degrees of religiosity, I had expected to see that a high number of the participants, who self described having a major shift in their spiritual belief

system, to depict how specific facts or theories that they had learned in school had been a significant causal factor for that process of change.

However, what I heard through conducting the interviews is that very few of the participants mentioned education as a primary influence over alterations which had occurred in their spiritual belief systems, and most did not broach the topic of education before being specifically asked a question regarding the role of education in their spiritual beliefs. While it is important to note that belief change often involves many interrelated factors, most of the participants focused their stories one or two salient events in their lives. These events seemed to mark the beginnings of significant spiritual change in the stories, and provided a rational for their later spiritual shifts in belief. In an essence these events serve as a symbolic epicenter of change out from which all other augmentations in belief structure begin to occur.

One man, Jonathan, talked about how he had been trying to find a greater sense of meaning and purpose in his life. Eventually he met an individual whose actions and beliefs were impressive in their scope and caused Jonathan to rethink his approach toward religion and practicing a faith. In this case, the event that fundamentally caused his shift in religious view was interacting with one person who was highly influential:

> I began to question if there was anything that could provide meaning and purpose, and what is there? At that time I was getting ready to be stationed in Vietnam. I was in a helicopter squadron, and I really started inquire more deeply into this. At that time a fellow sailor talked with me about having a personal relationship with God through Christ, so you understanding that it is from a Christian prospective. Up until that time I would classify myself, I wouldn't say agnostic, but I would certainly say what I observed

in the lives of people who were just wish fulfillment people, you remember from

philosophy class wish fulfillment, if I wish about something hard enough for something it

at least has a chance of coming true, but this guy who told me about a person relationship

in Christ didn't fit any of the categories I had know before. Number one, he wasn't old

and infirm, number two he seemed to exemplify some real purpose in his own life, and

had got me to inquire more about what he was talking about. So he then shared with me

about how one could to a personal faith in a savor, Jesus Christ. (Jonathan, personal

communication, February 4, 2009)

Another participant, Sean, shared his experiences of spiritual belief change which had

very similar elements to Jonathan's story with a focus on being influenced towards a religious

path because of witnessing how others lived their lives:

So, I'm a professing Christian, and categorizing within that gets interesting, but I was

sort of an agnostic all through my college days, and I think what really turned me towards

a more definite religions orientation, was teaching high school. So I taught in a kinda

quazi-inner city school, in Charlotte, and I was teaching kids who came from very

impoverished backgrounds and had a lot of struggles, and at the same time I am

interacting with this very interesting literature, I taught a class in African literature, and I

taught on world literature, which is all about, a lot of classic world literature comes out of

spiritual traditions. So it just opened up kind of an identity crisis, and a lot of spiritual

seeking, and a lot of the folks I was teaching with were professing Christians, and

actually saw teaching these kids and these classes as part of their ministry, and so that

was kind of the point that a lot of this stuff synthesized for me, and so I had an adult

conversion in my early twenties and have been trying to figure it out ever since

[laughter]. (Sean, personal communication, February 6, 2009).

A third participant, Jen, also described her process of spiritual belief change as having

primarily resulted from simple interactions with people who she felt had interesting and

impressive qualities of spiritual richness about them. In her case, she went so far as to change

from a history of practicing in a western religious tradition to practicing an eastern religious

tradition:

I felt like usually my beliefs changed, and then school followed in some way. So instance

towards the end of high school, I was starting to look around in my family, which is

strongly Catholic, and I was really interested in religion so I looked around, and it was

like well, "Could I be a leader in this church, what would that mean?", and its like oh you

would be a nun, wow, what do they do, wow this is really weird. So for me just sort of

looking around into it was obvious that there was something going with this that was

missing something, you know, that I needed to develop, because it seemed as though

there was a little bit of a stop there. So that lead me to, that was like at the end of school,

and when I went to college there were more words that were put that. I did study more

women's studies and whatever, but it wasn't really as much for religion, I didn't feel like

that was as much a part of it. So then I became a Buddhist based on meeting people who

were Buddhist who impress me in various ways, I was like, "Wow, these people have

access to something quite profound", and I had a little taste of it, and I was like, "Wow,

so this practice helps with that, good I would like to try that", and then started that. And from there I distinctly remember studying post-modernism in my rhetoric classes, and I said, when we got to it, I said to my professor after class, I go, "Hey, post-modernism is the Zen of theory", and she was like, "Yeah, it might be", and then so I was curious about post-modernism, but it after, it was because I though that it aligned with my belief in Buddhism. (Jen, personal communication, February 14, 2009).

Alternatively, both Emily and Julie also had interactions with people which caused them to reevaluate their faith and question their spiritual beliefs; however it was not because these individuals were a positive influence. Rather in both situations it was because the behavior of these people raised personal concerns about the nature of what religion should be:

I had a crisis of my faith, I guess you could say, and I was going to a Christian college, but what happened was I was surrounded by people who believed things differently than I did, even in Christian circles, and so I thought well if these people seem to have it all together and they're believing things different than I do, even within Christianity, then how can I know what I believe is right, and in return how can I know what they believe is right, and if everything is relative then why believe any of it anyway. And being English major on top of that I was spending my days reading ideas of a lot of really smart people who believed a whole host of other things on top of that. (Emily, personal communication, March 23, 2009).

Middle to late high school we went to church every Sunday, and usually went on

Wednesdays, and I grew up Methodist and Presbyterian, but mostly Presbyterian I

guess. And, I guess it wasn't that my parents weren't like overly conservative, they

weren't I dunno bible beaters, bible thumpers, whatever that phrase is, so I don't feel like

I had it thrown at my face at home, but it was just a part of our lives. So I was, you know,

confirmed in a Presbyterian church, I became very involved in my church as an

adolescent. Mainly because I had kinda started going down the wrong track, I had an

older sister who was using drugs and all sorts of stuff, and ended up getting sent to

boarding school, and I was going right down the same path, and like quickly realized

once she left and went to boarding school, I realized really the impact that that had on my

family and how much my family changed once that influence was gone. And so kind of

in reaction to that, in an effort to get away from that kind of lifestyle, I swung the

completely opposite way and became really involved in my church. Started, you know,

went to youth group every opportunity I was at church. Became involved in the session in

our church which is really, it's the governing body of the church, in a Presbyterian

church. And we had a youth representative, so I was part of that body for a year, and

probably because I spent so much time at church, and also because I started seeing the

inner workings of the church, and you know, as a youth you have this ideal picture of

what people of faith should be like, and then once I started seeing how the decisions in

our church were made, and how we decided what families to help and what families

to turn away, and that kind of thing. I really became, I dunno, I lost a lot of faith in it, I

dunno, it just really really turned me away from the whole process. I stopped going to

youth group as much. In college I went to church occasionally, but I would say around

that time, I definitely quit identifying which such a strong faith, and always thought I just

needed to start going to church again and I would find my faith, and whatever, but that

never really happened. (Julie, personal communication, April 9, 2009).

In other stories that I was told, motivation toward belief change stemmed from the way

certain outside groups of people were labeled from religious prospective. These groups of people

were often identified as being evil, immoral, and hell bound for the way that they lived their

lives. For Amy, having personal experiences of interaction with people from those various

groups directly contradicted what she had been told was moral and right:

I identify more with my mom's view, like I said, and I think a big part of that has come

from, I have known a lot of people that were very close to me whether they be friend or

relatives that I cared about very much, that were according to things like the bible and

things like organized religion, that were going to hell, unless they stood up there in front

of a room of people and said I think this, or "I think Jesus Christ is my savoir", or

whatever that they were going to hell. And that was something that really struck me, I

personally couldn't sit there and believe that a God that I think is so good, would just,

you know, I dunno, send people to hell for things that half the time they couldn't control,

people that I knew that, for example who were Jewish, or people that I knew that were

gay, I just really didn't identify with the black and white aspect of it. So I think that was a

big thing that made me just second guess a lot of things, and actually ask questions about

a lot of things, and, you know, following those types questions, just not buying into a

lot of it. Not saying, "OK well I am going to say that everything in the book, meaning the

bible, is hands down this is how it goes". I would say the main thing that led me to that

process that you were talking about is knowing people who didn't fit in with those beliefs

that were just good people and people I cared about greatly. (Amy, personal

communication, April 6, 2009).

For others the experience has little to do with other people, but instead with being a part

of and observing the natural world around them. Derek talked about how his spirituality is

derived directly from the beauty that he has seen places that most people often overlook:

I use the microscope as a good example. There are just so many things you can see in a

microscope that are so elegant that are obviously organized, and beautiful, that you just

completely miss in your daily life that pretty much any time I find something like that in

a microscope, or in nature looking at mushrooms, or looking at plants, or looking at

animals. Any of those moments would count… Really the easiest way to do it is to be in

the woods at like seven o'clock in the morning when the sun starts shinning through the

trees and you get those sun beams coming through, everything is completely quiet and we

were, this was in Pennsylvania, we were there on a Sunday morning, why would you

want to be in church? Like this is church. Why would you want to be anywhere else? And

I think that is how you would explain it to someone else, is just go out and see what

the world can do. (Derek, personal communication, January 12, 2009)

Participants also spoke about how the death of a loved one was a major cause of spiritual

belief change. The tragic event of having a family member or close friend die, especially if the

deceased was still in the prime of their life, can cause a person to begin to question the religious traditions that they were raised with. The sudden skepticism often revolves around questioning the higher purpose of God's will. Brain spoke about the death of his mother and some of the issues that it forced him to deal with:

> Somewhere in there my mom died when I was about twelve, thirteen, this was something that initially caused me to start questioning things. And then through that time I was just felt very guilty for feeling that way, very fearful that I might be punished for thinking this way, and it was a major relief to eventually accept Jesus into my heart, to accept God into believing this, and fully like putting all of my beliefs into this, and to devote my life to this. And after that feeling wore off, that initial sort of like feeling wore off, and that my life hadn't really changed all that much, and I still was very angry that this had happened, and it still made no sense to me, it was very much, just hard to make any real sense out of this, it just seemed that God was extremely, kinda flippant about things, and if there was really a plan what was the purpose of like putting us here just to suffer and all this kind of stuff. These were just these very adolescent kinda of angry thoughts that festered and were never really answered by anybody that I went to, and I just ended up with a bad taste in my mouth when it came to religion. I went to a Baptist school, college, for my freshman year and was really bothered by the hypocrisy that I saw there and the insulation, just the insular nature of the place, and I wanted to go to another school and just kind of explore some other ideas. One of the things that really bothered me, was that nobody, like people would just scoff at anything that was bound in reason, or things like

that. It was like blasphemy to discuss evolution that was something that was like a possibility, things like that.

Just extremely difficult things in my life, know you, tragedies to me, and then like learning about tragedies that happen to others, I suppose a lot of that happens in school as well, in history we learned about Vietnam and just horrible things that men do to each other. And then learning about other cultures, and how different they are, and just learning that there are billions of people who believe in something that is completely different from what we believed in, and to truly consider that they might be damned for where they are born just seemed ridiculous to me. Specifically I can't think of anything besides my mom dying….

If I were born into a world where everything was absolutely perfect and my parents told me I was blessed by God, and everything just turned out great, and I was like the best person on the sports team, and totally rocked IQ tests, and dominated standardized tests, and everything just wonderful happened all time, I wouldn't question my faith, I would be less likely to question my faith. But when, and now if I had been exposed to like, in that situation, all kinds of terrible things that happened to close people to me, and things like that. I mean there is always going be that, "Why does this happen?" like you know the explanations aren't always satisfactory, that we can't know, and that there is a purpose behind this but it is too great for us to understand. Like that kind of stuff just isn't good enough for some people, and when you start to experience that you don't get punished for thinking this way, you feel a little bit more comfortable doing it. (Brian, personal communication, April 6, 2009).

For others the passing of a loved one sparks the impetus to begin formulating a spiritual foundation which otherwise had yet to form. Ann described her spiritual upbringing as being relaxed and open, with her mom emphasizing good deeds over any particular religious tradition. However, with the passing of her step-father, she began focusing more on what spirituality actually meant to her and attempting to reconcile her loss with an understanding of the world:

> When I was younger, it was kinda just I dunno, I prolly didn't really think about it, but it became more important after my step-dad died, which was in tenth grade, and so that's where I really sort of, I don't want to say started to identified with, but I guess became more aware of spirituality issues, or spirituality in general…. The big change was just my step-dad passing, that affected how I believed in hings, I mean I have had grandparents die, but they were old, and you kinda accept that easier than when a parent figure passes unexpectedly. (Ann, personal communication, April 7, 2009).

One story in particular bucked the trend of having only one significant event serving as the catalyst for spiritual belief change. Tim shared the tale of how his experiences would eventually lead him to having a strong faith; this journey involved several peaks and valleys in belief which took years to progress through, including learning new information, creating a unique belief system which merged science and faith, eventually being won over by a personal experiences:

> I had a really serious personal commitment to science, beginning when I was probably 12 or so, I really wasn't dealing with it in looking for conflicts or anything, I assumed that

they would all just fit together somehow someday, but schooling provided, some aspects

of schooling, provided some alternative explanations for events compared to the bible,

and so that it effected in me in that sense I had to make to either a decision between, or

figure put some way to put them together that nobody was helping me with….

At the beginning, in high school, you know, I was going to put them together, I

was just going to figure out how to do that, and I couldn't do it, and then when I went to

college, even though I got very active in campus ministries, I was really perplexed, and

then, that was my freshman year, my sophomore year I quit all those things altogether

and decided it was completely incomprehensible and I was just decided that I just

couldn't deal with religion, so I stopped completely. And then a year later I was reading,

I was very interested in psychology, and so, I was particular interested in some of the

humanistic psychologists, like Carl Rodgers, Abraham Maslow, and people like that. And

for me because I really didn't want to let go of the religious dimension of my life, I

figured out a way to sort of put them together using humanistic psychology, it didn't

work, but for awhile it sort of gave me a way of addressing, you know, of dealing with it,

and I got very active again. And so that is kind of how I addressed it, then eventually that

fell apart because it really didn't make any sense (laughs). And then I was really stuck,

because then it was just like, well OK that's it, I can't reconcile these things and I can't

disregard history, and I can't disregard chemistry, and physics, and biology, and so that's

that. But then I had some experiences that were religious in nature that made me doubt

the doubts. And over time through additional readings, and so forth, William James, *The*

varieties of religious experience, and things of that nature, sociologist named Peter

Berger at Boston University, who has written some things that I found very helpful that,

you know, I said OK maybe this doesn't fit together, but there are things here that need to be explained and science doesn't do it either. And so that is sort of the way I wrestled with those things, and it depended more on my experience over time, and that is kind of where I am I guess. (Tim, personal communication, February 17, 2009).

From the stories told it often seems that significant changes in spiritual beliefs are described as being caused by personal experiences or events, rather than facts or theories. This is not to say that factual information is unable to be the cause of belief change, in fact, all that can be said from the available data is that people who are reflecting back upon on their belief change often attribute that process of change to an experience rather than to a classroom lesson. Again, relying on the narrative model, the participants described these events as a complicating factor for their belief system, one which eventually caused some sort of internal conflict over their spiritual beliefs and pushed them toward some alterative of their beliefs.

The Role of Education

With education mainly being described as having a supporting role to that of personal experience in many of the stories, it becomes increasingly important to highlight in what particular ways the participants depicted the influence education had on any augmentation to their spiritual beliefs. While in most of the interviews formal schooling and education was not described as having a causal role in belief changes, nevertheless, it was portrayed as having an important role in allowing the overall process of change to occur.

Molly tells of how her view of the Bible shifted with her increased education allowing her to see it more as a work of literature and history, than as a holy text:

I was an English major in college, and umm I really came to sort of view the Bible as a

piece of literature, whereas, you know, you say that to any hard-core Christian and they

would be appalled, but you know I see it as a piece of literature that is flawed, maybe

parts of it are inspired but if it was written by human hands, it's not, it's hard for me to

look at that after going through literary theory, critical theory, and not assessing the

socioeconomic effects on, you know, this particular person, and knowing the different

hands that different gospels went through and knowing that they were sort of shaped into,

you know, to help somebody come to particular end. (Molly, personal communication,

January 12, 2009).

Another participant, Robert, told of how traveling the world for his degree opened his

eyes to many of the cultural differences in the world, enabling him to have some contrast to the

life that he had known growing up. The experience acted as an introduction to a much wider

world, and allowed him to be exposed to a broader way of thinking than had been previously

possible:

Clearly, when [my wife] and I began to travel a couple years back to more places and

things like that and we got to meet a lot more people, again most of this stuff is in sort of

in conjunction with school, so I did a field school in Belize, you know, to go and to do

some archeological research and stuff like that, and we went to China for awhile and I did

a semester abroad. Seeing all these other things we clearly transcended any sort of

understanding that we previously had because we were both or I, I will speak for myself,

I was clearly, definitely more sheltered in that there was a close group of people that I

associated with growing up both family friends, family, and my own friends, and there

was very little difference between most of us, and so after we began to travel then I got to

have much more of a reference base of other religions and other people's spirituality, and

things like that. It wasn't until I started to pursue education that I was able to get some

sort of a comparison to what I knew. So comparison was probably the most important

thing in making me realize things that I would never otherwise realized, because it was

all I knew. (Robert, personal communication, January 17, 2009).

In her story Emily openly discussed how the studying of the humanities became

challenging to her belief system. Through reading about the situations of others, she was forced

to examine her own beliefs, and place herself in the shoes of other people. In one sense education

forced her to widen her perspective about the world and consider other points of view.

I have had multiple experiences that were challenging to my faith, none of them had to do

with science class, those were all definitely reaffirming looking at things through a lens

design, but studying the humanities was more challenging, because I developed a deep

respect for a lot of authors that I read, who seemed to have some great ideas, but believed

things that are vastly different from what I believe, like I said, so, when I was 21, 22, 23,

and when I was reading The Color Purple, and you read a story of intense suffering in an

individual, and reactions to it, and you have feelings towards these characters, that you

want to respond in a way that is not say, the biblical response, or not the loving response,

or not the Christ-like response, that sort of thing but it feels right anyway. Or you see that

the main character engages, even though she is not a lesbian, engaged in lesbian

practices, and you know that's according, in my faith that's a wrong response, in a moral sense, but yet it feels justified, and that's how she is coping with her trauma in life, at that point I didn't really have the answers to that, because at that point I was still trying to figure out how powerful is God, so that was challenging. (Emily, personal communication, March 23, 2009).

In his story Mike expressed how education helped him by providing a set of well reasoned critical perspectives, which allowed him to develop and articulate some of the issues which he had internally felt about his religious upbringing, but had been unable to give voice to:

But, you know, the way I disengaged from Christianity there wasn't really a point where school helped me do that, school did help me sort of give language to my insurrection, in that were these set of critiques that were available.… It started with gender politics, you know, that is where this crack started to happen and starting to look at Christianity as this patently male dominated thing, although that is changing somewhat, and you know, the history of that and how it has been used in terms of asserting power and all these sort of masculine qualities to world history. And so that sort of opened things up and then I read Nietzsche and then got into this post-humanist, post-structural philosophy, continental philosophy, 20th century stuff. But my education into rhetorical theory really was a big part of that too, because that is what we study, we study how people make meaning, and were the buck stops, and how are narratives built, and how do people linguistically cobble together their universe, and that is very closely tied in with studies of religion, in fact some of the most notable rhetorical theorists write extensively about religion as a

primary metaphor by which we can understand rhetoric, because, you know, almost any

meaning making activity that we are involved, in it could be called a type of spirituality,

our belief that Barack Obama will bring us salvation is not so different from the belief

that Christ will bring us salvation, there are a different set of key terms, but the narratives

look remarkably similar, so my vocation studying rhetoric and meaning construction has

been a vocation in understanding how religions are built, how they operate, how they

multiply, and spread themselves, and how people come to ask the questions they do like,

"Why am I here?", why they need to ask that question, and what narratives have been

built that are ready made to answer that question. Studying deeply how those things are

constructed has really influenced my perspective on what spirituality and religion is.

(Mike, personal communication, February 14, 2009).

Brain and Julie both discussed how going through schooling has provided them with a

more analytical frame of mind, and has given them the ability to openly question the ideas that

are presented to them:

I mean being exposed to like scientific thinking, I think, that is definitely like a cultural

influence, when I went in college, I went down a science route, I did psychology, and I

started out pre-med so chemistry and biology and all this kind of stuff. I guess being

exposing to this kind of thinking, where you are trying to disprove the null hypothesis,

you know, this is where we start, we assume that this isn't true, and how can we do this. I

think getting exposed to that kind of thinking, what evidence do we have and what can

we work from there, because that is all we have to work with. I dunno, I think that just

forced me to think about all sorts of things that way, and it is hard to, it is hard to balance

a firm faith in some often disappointing God or religion, along with wanting evidence

that it exists. (Brian, personal communication, April 6, 2009).

I think that being in school and having a critical eye, being trained to have a critical eye

about everything, and to question everything. I think that that has definitely influenced

my faith, I don't just take things people tell me, you know, I need to go through that

process of questioning and taking it in for myself. I also think that being in a social

science we kinda look at the world through research, and we look at the world through

research really, we think about things in that way, and hypotheses, and evidence, and that

kind of thing. I think being around that atmosphere of questioning, has definitely

changed, maybe not changed, but has made it difficult for me to look at traditional

Christianity in the same way. I get this sense, and this may be completely horrible to say,

but I have felt like, in terms of educated people are, I think it is very easy for uneducated

people who have never been taught, or never been allowed to question things, to think

critically about things. I think that those are people who tend to take religion at face

value, or believe what their parents taught them, or the church has taught them, and never

question it. I am sure that's not true for all people in that group. I feel like, you know, the

higher up in education I go the less people I know are very conservative in whatever faith

they believe. So I feel like there is a relationship between the amount of education and

that amount of questioning that you do about your faith, and understanding too, I think,

part of question your faith is understanding that that is OK, and that you are not going to

go to hell for whatever you believe in because you are having questions or doubts. So I

felt for me, the higher I get in education the more I feel OK about questioning and

exploring what I believe without feeling this impending doom, of, you know, what am I

doing to myself. (Julie, personal communication, April 9, 2009).

Along the same lines of Julie's closing remarks, Amy questioned what her life would

have been like if she had received a different quality or quantity of education. While even though

she attributed the changes in her religious belief to life events, education still has an important

role in how we interpret those events:

It is interesting for me think about if I was not in the position I am in, and if I hadn't be

educated the way I was educated, the way I might have turned out spiritually or in a

religious light I guess. And just thinking about that, I think that, I would be much more

religious and I would take things people say and not ask a question, and I would be one

of those people that is kinda more of a follower than like a, this is my personal belief, this

is for me, its not for what these other people think, so I think that's one of the aspects that

education has helped make, that is one of the ways that education has helped make me

the way I am. (Amy, personal communication, April 6, 2009)

An interesting aspect of listening to all of the participants talk about the role education

played in their arrival at their current spiritual belief is that most acknowledge learning has

something to do with how they decided to alter their spiritual beliefs, yet the articulation of why

it is so important in that process remains difficult for most. It seems fair to assert that education

provides an alternative voice to those who have been raised with just one explanation of the

world, allowing people something to grab onto which helps them deal with whatever spiritual problems they might be having. A good example of this is when Mike asserted that schooling helped by providing an array of well established alternatives, which aided in his natural drive to distance him from the faith he was raised with.

On the Type and Direction of Belief Change

This study has been able to identify some of the large scale influences on spiritual belief change; but it remains out of reach to accurately describe how the actual process of belief change has happened for the participants. Most of the participants only speak in generalities about how their beliefs have been altered over time, remembering and emphasizing key events in their stories which lead to either dramatic or subtle changes in their beliefs. These symbolic events are important for understanding what individuals consider as being influential in their personal changes of belief, and can help in identifying areas of interest for future study. However, being able to explain each small change that occurred over time, in an attempt to determine what the specific reasons are that one person came out with a stronger faith, and another person in a similar situation had their faith completely destroyed, is beyond scope of this study, which does little to create any sort of predictive model for the factors which will lead to spiritual belief change.

As the various stories of the participants indicate there can be a wide variety in the shift of direction of spiritual beliefs. Some participants told me that they have had challenges to their faith, but they have remained steadfast in their religious conviction, while others said that that they have become agnostic or given up the practicing of a faith altogether. However, there is at least one observable trend in the different stories; almost everyone shifted towards having more a more tolerant belief set, and even the individuals who remained completely faithful to their

religion, after the normal trials and tribulations of life, often express that their core spiritual beliefs seemed to be more moderate and accepting than what they once were.

One participant, Molly, expressed the notion that she moved away from her early beliefs about religion because of the complexities of life. Sally also suggested life experiences lead her to modify her beliefs about the world:

The more aware I became of the world and its issues, the more I realized that I couldn't just embrace Catholicism and that was the end all be all. Probably my spiritual, I guess my spiritual self, I sort of just redefined, that my spiritual beliefs are sort of an a la carte choosing from different things. But, maybe my spiritual self became a little bit stronger, because the more you learn about the world the scarier it can seem and I think sometimes you really need to hold on to certain things that make you feel better, but at the same time I sort of had to let go of casting those things within Catholicism, because it just didn't fit anymore. So the formal religion sort of dropped away as I went on in my education, because things were more complex I realized and I needed to address things in a different way. (Molly, personal communication, January 13, 2009).

I think a lot of the exposure to different types of people, helped me to become more open minded, and not so much in my bubble, and not so judgmental. I just, I mean, there were people, teachers that I had, which were amazing people, and I just, you know, the thing that hit me the hardest was that, you know, if you are not in the religion you are not a good person, and just seeing these people, important people in my life, the people who

were giving me education, I just couldn't see them as anything less than beautiful people. (Sally, personal communication, January 27, 2009).

Amber asserted that she has become more open minded in her beliefs, even though she has remained dedicated to her faith While Thomas beliefs a strength of his faith is of that of judging people for their works:

I think you really become open minded, I would say that even with me, because I have realized, you know, as I got older, I am becoming more open minded about things. I am not as conservative as I used to be. It is perfectly fine with me, I am not mad about that, as long as I know where I stand with my faith. (Amber, personal communication, March 30, 2009).

I love the fact that, within Catholicism at least, we say, well yeah belief is obviously, you know, important in some ways, but how a person lives, is just as important, so I think for my spirituality I really emphasize peoples works, if somebody is a Muslim, or a Jew, or a Buddhist, or an atheist, and they live a great life, I think that's a good thing for them, and I would feel much more close to them on a spiritual level, even if they were atheist, than if somebody, you know, was saying, 'Well, I'm Catholic, but you know what, I am going to do heroin every weekend'. (Thomas, personal communication. February 13, 2009).

Jen discussed how while her own faith allowed her to become open to other people and their beliefs and traditions about the world, she also grew in her willingness to identify which sets of belief were ill fitted for her:

As I am talking about becoming more radically open to other people's traditions, wanted to add that I also am more comfortable with saying that they are radically incorrect for me. Like for instance, I am more comfortable now with saying a fundamentalist belief in the literal biblical word or something like that, causes more harm, is less inclusive than other forms of spirituality, so as there is sort of like an opening to different people's traditions there is also more experience in the recognition that some spiritual traditions are a lot more limiting, and some really open up possibilities, and so they are linked to reducing or adding suffering in various ways, I think, so I didn't want it to sound like I have become completely open to all religions, as though, you know, like I would just go practice anything. I mean I think that as I have become more open to what other people believe I am also more clear on particular objections and particular reasons why some traditions are problematic in various ways. (Jen, personal communication, February 14, 2009).

Away From Religion and Toward Spirituality

A second effect commonly reported by the participants after the resolution of the conflicts over their spiritual beliefs, was identification with moving away from religion and toward a personal spirituality. In many of the cases the participants spoke about spirituality as if it was more civilized than that of religion, in that it allowed an individual to be in touch with

something of great significance, but also allowed that person to choose the rules and beliefs that they felt were best suited for them and their understanding of the world.

Robert commented that coming to learn that there is a stark difference between being spiritual versus being religious was an important step for his spiritual development. For a long time he withdrew from being a spiritual person because he was unable to see the difference between the two concepts:

> One of the main points that you are supposed to get out of education is your own personal ability to think critically about things, and I think that starts with yourself, and if you do get educated and you do think more critically about things, you are going to start thinking critically about religion, and so I think that it will at least make you question it… What I think it did, was I think that it allowed me to see that there are differences between spirituality and religion. And, this is important; I don't think that you have to believe in God to be spiritual. I think you can be spiritual, without having a belief in God. (Robert, personal communication, January 17, 2009).

When asked about what she currently believes, in considering all the changes she had gone through, Amy suggested that she still hung on to some of her core Christian values and beliefs, but at the same time rejected many of the more religious aspects of her original faith. While Julie is unsure of how to describe herself now, she feels she has distanced herself from religion and moved toward being personally spiritual:

I believe that there is a God, one God. I believe that he had a son Jesus Christ, through

whatever channels ended up on earth with us crazy humans, and I believe that he was

not just a man, he was the son of God, he was crucified, he died, he rose again, and he

died for everyone's sins, and that is kind of the nuts and bolts of it. I choose not to be

overly, so if you are looking at religiosity versus spirituality, I choose to, I don't really

identify with the religious aspects of it per say, as opposed to the spiritual aspects, those

beliefs that I just stated are pretty much my core beliefs. As far as, you know, what do I

think the Bible is, I kinda don't know, and those kinds of things, like the things that are

more religious aspects. I guess I don't fall into the mainstream of Christianity maybe

when it comes to those things. (Amy, personal communication, April 6, 2009).

I think, I don't really know what I believe, and I kinda have felt this way for a long time,

but I don't know that I necessarily know that I feel the same way, that I believe in Jesus

like I used to. My faith is now more of a spirituality in a sense. (Julie, personal

communication, 2009).

Amber suggested that perhaps the process of becoming more spiritual is a natural

response to an increase in education, and that as we become more aware of the world, we desire

to break limitations places on us by the definitions of others:

Spiritual means a soul searching journey for you, I would say people become more

spiritual once they have more education, but then you probably become less religious

because you don't want to be forced into one area. I don't want to be a Catholic, I don't

want to be a Methodist, I just want to just be non-denominational. I just want to believe

what I want to believe, if I believe in Christ I am going to soul search for that. (Amber,

personal communication, March 30, 2009).

While certainly not every participant stated that they had moved away from religiosity,

many asserted that they had changed their perspective on life and in accordance with those

changes needed to break free from the strict rule-oriented base of structured religions. The

participants almost described a picking and choosing of what they wanted to believe, and

because of this hybrid approach to spiritual belief have selected to self identify as having become

more spiritual rather than religious. It is also important to note that the term "spirituality" has

changed in its connotative meaning for many of the participants, in that it represents a form of

personal spirituality, or a personal exploration of one's own relationship with the world; rather

than a being a term that encompasses religion, it is now a domain set apart from religion.

Possible Reason for Diverse Information

One idea that was noted earlier as a possible reason that education in general might be

particularly weak, in isolation of other factors, in altering the spiritual beliefs of students is that

there is simply too much conflicting information available to draw from for there to be much of

an effect. While this assertion is being made solely from the limited data of this study, it is

possible to see parallels of this effect in many other domains of life. One only needs to look at

the battle which rages on in the area of reading education between whole word learning and

phonics based learning–the two sides which are so staunchly opposed to each other as to almost

amount to an academic gang war have been fighting over one issue for years (Ravitch, 2002).

The reason such disputes continue unresolved is that both sides think that they are correct in their beliefs, and both also have a fair bit of evidence to back up their position. Similar battles exist in almost every other of the academic fields as well, even when many of them are able to rely on empirical data in crafting arguments; an ability that by definition faith-based beliefs lack. It seems from what I have been told that individuals often choose a side based on what feels right to them, and the notion of "feels" often appears to be founded on experiential rather than purely intellectual information. For an individual to have what feels right to them be overturned, there needs to be an almost overwhelming amount of evidence against their belief system. In the case of spiritual beliefs this becomes an extremely difficult task.

Emily presents as evidence for her faith a view of linguistics which, as she openly admits, is controversial in nature. However, despite the element of uncertainty in the field as to which theory could be correct, she chooses to side with the evidence that is consistent with her own belief system, taking solace in the fact that it is reflective of her own personal view of the world:

Studying linguists reinforced my faith, now, of course depending on your world view, people are going to look at linguistics in different ways, and so there is Steven Pinker and then there is Noam Chomsky, who doesn't, now I know they are in the same boat, but in another sense they are kinda not. Linguists have really in a lot of ways, and they have even addressed this, I know Steve Pinker has addressed this, in a lot of ways linguistic theory could be based on the assumption of creation, and that human beings are distinctly different from any other species, and that there hasn't been enough time for something as complex as language to evolve. Of course that depends on your world view, how you are going to interpret that, because I really think that brilliant people have been able to

interpret it different ways, but looking at it through my lens it reaffirms my belief system,

and reaffirms my faith. (Emily, personal communication, March 23, 2009).

Most interesting from this example is that of citing Steven Pinker, who has openly in

interviews expressed his religious views as being atheistic and is a vocal supporter of

evolutionary psychology, as a means of supporting a belief system based in creationism

(Paulson, 2007). While Pinker may have at some time commented on the nature of language

development in humans as being similar to the notion of creation, it is highly unlikely that he

would advocate a religious interpretation of his ideas.

In a different interview, Jonathan expressed a commonly used counter argument to the

theory of evolution, by invoking the notion that there is an irreducible complexity to basic life

forms which leaves room for life to still be influenced by God's design, rather than by natural

principles. Despite the fact the this counter argument was openly attacked in the court of law (see

Kitzmiller v. Dover Area School District), in a case which debunked many of the examples

which were originally used in the argument and discredited it as having been rejected by the

scientific community, the idea still provides a safe haven for Jonathan to hold onto his beliefs,

through using alterative explanations as a source of support. While some proponents of teaching

evolution might be discouraged by the idea that their lessons may be having a lessened impact, it

does becomes possible to see that a very strong and cohesive theory, such as evolution, can be

repelled rather easily using alternative information.

I think I come down to this view on this, is that when we see from either fossil records, or

other types of scientific data collection, I kind of come to the conclusions of, not that,

because it seem like these things just mutated from point to point, these living entities

mutated from point to point. I come to, I think, two conclusions that one is that God had

to start the process to begin with, that is Behe's perspective, that is the irreducible

complexity argument, you had to have any of the, even the most simple organisms have

certain numbers of parts, and all of those parts need to be in existence for that entity to

exist. It can't mutate a tail unless it had a tail to begin with. That might be a wrong

example but, he uses the mouse trap as an example. If you take the simple mouse trap

which has something like five or six parts, if you take one of those parts off the mouse

trap ceases to exist and cannot function unless the part is there, so you have to have all

the parts for the mouse trap to work. Same way with a living organism, with simple

organisms, you can get down to a irreducible complexity on an organism and say all of

those parts need there for that organism to start, well then how did it start, well I say God

started that. Now did he then allow it to change it in different forms, possibly, but then I

would come to that conclusion and say, "Oh that's   how God did it", not that, "Well that

proves that there is no God", or that it is all just chance and genetics, and little electric

charges inside of my brain. (Jonathan, personal communication, February 4, 2009).

Amber describes a compartmentalization of her beliefs, in which has yet to attempt to

combine her scientific understanding of the world, with her religious understanding of the world:

For me it is really interesting to learn about evolution, and Neanderthals and all those, but

I have never sat down and thought, 'Wow, well do people really evolve, or does God

really create the world?' I have never let myself into that I guess, which may be a bad

thing, but I have just chosen not to worry about it, I'll learn about evolution as much as I can, but at this point I am pretty strong that we were created by God. (Amber, personal communication, March 30, 2009).

From the words of the participants it is clear at least some of people who have been highly exposed to alternative theories and explanations of events that are in contrast to their religious beliefs are able to maintain their spiritual orientation. To me, this again, suggested that there needs to be something more than just facts being presented in a classroom to cause an individual to alter their religious beliefs. It is far too easy to find information and arguments which reinforce one's belief system, whatever that may be, to prevent any form of cognitive dissonance from occurring.

Summary

The findings from this study suggest, within the context of the narratives I was told, that education was an influential factor in the augmentation of personal spiritual beliefs; however it was acting in a supportive role rather than a causal role. The main catalyst for spiritual belief change was that of personal experiences, such as personal interactions with people, the death of a loved one, or the direct observation of other cultures. If one considers that in the majority of the cases presented here personal experiences were what caused the cracks in the armor of a spiritual belief system, then education and knowledge, in the form of facts, theories, and the well articulated arguments of others, were what was used by each participant to either buttress the damage creating a stronger amalgamate, or to shatter the preexisting beliefs and start forging anew.

In addition, many of participants asserted that their education had caused them to develop into more open minded people, allowing them to have a greater acceptance of other life styles and cultural perspectives. Other participants indicated that education had given them a more critical eye towards evaluating information which was presented to them, causing them to question new informative before accepting it as truth. From both these new points of view many of the participants suggested that they now had better understanding of the world, and that it was important to become a critical, yet accepting, person when dealing with life events.

Lastly, a little more than half of the participants talked of becoming less religious and more personally spiritual as they have matured. Combining this notion with that of becoming more open minded, some participants stated that religion in many ways is bound by traditional rules, such as the non-acceptance of homosexual life styles or the role of women. For those participants the traditional rules of religion clash with more progressive and modern ways of thinking. By being spiritual, rather than religious, an individual is free to partake in the favorable elements of a religious belief structure without being bound to all of the requirements.

CHAPTER 5

DISCUSSION

From the data collected in this study it can be argued that the participants interviewed asserted that life events rather than formal education were the primary cause for changes in spiritual belief throughout their lives. Such findings contrast the popular assumption that it is education which changes the religious and or spiritual beliefs of students. While education was not reported to be the catalyst for spiritual belief change, it seems to have a secondary role in supporting the justification and rationale for modifying spiritual beliefs.

An Overview of Education and Spirituality

The one clear constant throughout all of the interviews is that spirituality is a deeply personal issue, and the decisions which the academically educated individuals I interviewed have made to choose one set of spiritual beliefs over another are founded on both knowledge and experience. Their beliefs, by and large, have not been established through a general apathy of interest, or a premature foreclosure of identity; they have been thoroughly considered and evaluated as being an important element of life, one which needs to be reflected upon, and carefully selected. Each individual has weighed factors in their life and come to, what they believe to be, a reasoned and defensible position on their own personal spirituality.

The presumption, or even fear, that the teaching of a single fact, or a set of ideas, is sufficient be able to fundamentally alter an individual's spiritual beliefs appears to be incorrect. During the interviews no one expressed such a sudden or radical change in spiritual belief stemming from one idea, lesson, or subject learned in school. It is an understatement to assert

that the world is a complex place; it is rich in a vast variety of religious heritages, scientific and empirical knowledge, and historical accounts of both good and ill committed by groups and individuals of all classes and culture. Along with the understanding of the world being as complex as it is, comes the realization that a properly motivated individual is able to support any one of a menagerie of wildly diverse beliefs given such a large set of information. With the range of information readily available on the internet alone, it becomes extremely difficult to convince a critical mind of the validity of a complex idea, especially one which is based on faith.

It is possible to suggest that without such access to a wide variety of information it might be possible to control an individuals belief system, in so much as that person would have no alternative prospective with which to view the world. However, the opposite, full access to information, doesn't mean that alternative ideas are influential. For the individuals who were interviewed by me, the exposure to novel ways of understanding the world failed to serve as a catalyst for spiritual belief change. Instead, in story after story, it was a life event or experience which functioned as the beginnings of spiritual change.

A Comparison to Theories of Belief Change

In listening to each participant tell of their intertwined history of educational and spiritual development, and then comparing those stories to the variety of theories researchers have asserted about how belief changes occur, it appears to me that while no theory is directly contradicted by the interview data, at least one, the notion of *hot* conceptual change introduced by Pintrich, Marx and Boyle (1993), is notably reinforced by the findings. *Hot* conceptual change highlights the importance of, the sometimes overlooked, factors that play a part in the modifications of belief: situations, motivations, and emotions. In short, *hot* conceptual change

suggests that these important aspects of psychology are the influences which serve as confounding variables for otherwise logical thought processes.

Other theories of belief change discuss the topic in terms of how the addition of novel information to a belief set can cause a reevaluation of one's knowledge, and may lead to an alteration in the structure of an entire concept or set of beliefs, (see Piaget 1971; Carey, 1988; Case & Okamato, 1996; Thagard, 1992). While each of these theories is beneficial in attempting to understand how individuals may go about restructuring their beliefs about the world, the explanations they provide are founded on the epistemological assumption that logical systems are, first and foremost, influenced by factual information. A supposition which is true in symbolic logic proofs, but begins to unravel when dealing with the complex mental workings of people. These, and similarly constructed, theories fail to account for the fact that emotions are an essential part of the conceptual systems of humans. As counter-intuitive as it might seem, many researchers may be over valuing the role of logical reasoning in cognition, and in doing so miss the fact that beliefs are often weighted with an emotional value.

The emotional value of a piece of information, in many respects, appears to be as strong of a factor in belief change, if not stronger, than the logical value of that information. In speaking with participants, a theme repeatedly expressed, was that of having experienced a life event which had an emotional element associated with it, which then started a process of belief change. The importance of life events for the participants parallels the research of Gardner (2006), and especially Falsetti, Resick, and Davis (2003), who also suggested that traumatic life events were a primary cause for belief change. It is easy to understand how there would most likely be a high level of association between trauma and emotions, and in turn how such a situation may lead to

conceptual change, if the emotions from the situation were to be coupled with specific facts or beliefs.

An important question therefore becomes, where does this emotional value come from? It is the logical clarity of an argument, is it the method by which information is delivered, is it derived from situational factors, or is it from the personal relationship with the source of the information? Or alternatively, could it be that any sufficiently intense state of emotions, regardless of its grounds, produces a similar effect? Unfortunately, without recognizing the theme of emotional value until after the interview process had concluded no questions were asked which specifically addressed this topic. Therefore, what exactly was the emotional nature of the events which sparked a transformation of belief becomes left up to speculation.

An interesting implication of the results would be that the impact of new knowledge, or even the reprocessing of old knowledge, may be primarily influenced by the emotional state of the thinker, rather than the validity of information being provided. If this is the case we would expect to see the most dramatic upheaval of beliefs to occur during, or directly after, emotional duress. Such an implication would also entail that under the majority of circumstances, the factual information being presented in the education of students in public schools would fail to be sufficient for causing spiritual belief change, an implication which is supported by the personal histories of the participants.

A Comparison to Possible Psychological Factors

Many of the potential psychological considerations which were addressed in the literature review ended up being unrelated to the individuals who participated in the interviews. All of the participants turned out to be in their mid-20s or older, therefore had ample time for physiological growth and myelination of the prefrontal cortex. Each of the participants had a track record of

robust formal operational skills, having attained advanced academic degrees, and in several cases even doctorates. In addition, the participants articulately expressed how their spiritual identity was an important element in describing who they are. I would argue that the majority of the participants had attained identity achievement in the area of personal spirituality. The participants seemed to have a very clear notion of how they defined themselves spiritually, and where able to describe what separated the beliefs they held from the beliefs of others. In addition many of them spoke of periods in their lives in which they had differing beliefs to what they currently ascribe to now. Only two of the participants spoke about maintaining one set of beliefs for their entire lives thus far, and could possibly be considered to be in identity foreclosure for never having considered alternative concepts of spirituality. Therefore, in this study developmental factors seemed to have a limited influence on the participants; however future researchers working with different, especially younger, populations should be aware of the possible impact of developmental issues.

Spirituality and School Curriculum

One would be hard pressed to find a curriculum based issue which sparks more impassioned debate than that of the teaching evolution in public schools. Parents and educators have deeply entrenched beliefs regarding what is the appropriate type of information to be included in the science education curriculum for students. Furthermore, issues are even raised with how students should be taught the mandated curriculum in each state and what, if any, credence should be given to alternative explanations of the origin of our species. Importantly many of these beliefs about the proper type of curriculum design and implementation are directly rooted in the spiritual foundations of the arguer. As a result of such high tensions existing over the subject of evolution organizations, such as the National Science Teachers Association, have

posted an open response to the public regarding their position supporting the teaching of evolution in public schools, and have provided a wealth of resources for educators in aiding them in teaching evolution in schools (National Sciences Teachers Association, 2003).

Furthermore, numerous lawsuits have taken place in both local and federal courts all across the country, attempting to force either intelligent design or evolution into public school curriculums, in addition to cases attempting to either remove intelligent design or to remove evolution from curriculums. In fact doing a quick Google search even today will find active court cases which are dealing with issues revolving around evolution and schools. While the first, and arguably most famous, court case over the teaching of evolution in public schools was the *Scopes v. The State of Tennessee*; in 1925, this state Supreme Court case had an outcome which at the time only effected the state of Tennessee, and had no legal influence over the rest of the country. Yet the Scopes trial set the stage for future court cases, and thus far, there have been sixteen cases involving an issue related to evolution and schooling have been adjudicated to completion in federal court rulings, with ten of these cases having a major affect on the educational landscape of the U.S., the first being in 1968, with *Epperson v. Arkansas*, and the last being in 2005, with *Kitzmiller, et al. v. Dover Area School District, et al.* (Matsumura & Mead, 2007).

Despite the long standing contention over the legality of teaching of evolution, and other controversial topics in schools, there might be little room for such dispute in any imminent discussions about spirituality and curriculum. If future research into this topic was to be conducted with a larger sample size and the themes found in these interviews were to continue to be expressed by a greater number of participants, then the arguments currently used to suggest that the teaching of specific ideas or theories, such as evolution, might challenge or damage spiritual beliefs of student, would in fact be invalid and solely based on personal fears rather than

psychological research. In essence, it might be possible to side step the entire debate over what sort of factual information should be taught to students in the science or other curriculums by understanding the mechanisms by which personal spiritual beliefs evolve. In coming to a basic understanding of the psychological processes which govern belief change, it may very well be the case that no single fact exists which is strong enough to derail a personal spiritual faith. Therefore with forthcoming research, one might be able to argue that there should be no limits placed on the teaching of factually accurate information to students which are based on the grounds of infringing on their spiritual beliefs.

Terrorism and Religious Re-education

A point of interest for me in looking over the interview data gathered from this study is the possibility of taking the various themes produced from the conversations, and then critically applying them to other situations which have both religious and educational components. This effort would hopefully allow some further insight into a related phenomenon which perhaps, due to complexities, would be prohibitively difficult to research on its own. One case where such an approach might be beneficial would be in attempting to predict the effectiveness of religious reprogramming education classes; these are educational courses in which individuals are placed, sometimes forcefully, into a tailored curriculum which is specifically designed to modify their religious beliefs. These re-education efforts have been, and are, currently being used as a tool to oppose radicalized Islamist extremists in various parts of the Middle East.

While perhaps lacking some of the shock and awe of military campaigns, it is noteworthy that a part of the overall struggle the United States is waging against the radicalization of Islam has taken an educationally driven direction. Specifically the idea of using intensive and scholastically oriented religious learning as a means of combating the preexisting extremist

religious doctrines to prevent them from being followed by believers has been integrated into the defense strategy employed by the US government (U.S. Department of State, 2009). "…Many of the ills associated with 'Islam', such as extremism and violent militancy, arise from a liberal and static approach to the sacred text and tradition. It follows that supporting moderate Muslims and liberal interpretations of religious texts have become the objectives of US interventions in the sphere of education…" (Ismail, 119, 2008).

The vast majority of those living in Saudi Arabia practice the Sunni form of the Islamic faith, and while it has many different forms the official state religion is that proposed by Sheikh Muhammad Ibn Abd Al-Wahhab, an Islamic scholar from the eighteenth century. "Today's Wahabist Islam (also known as Salafi Sunni) is a fundamentalist faith that limited religious doctrine to the original version of Muhammad's day and rejects interpretations and additions since that time" (Thomas, 180, 2006). Under the pressure from the US government and the impact of the bombings of 2003 in Riyadh, the Saudi government has taken multiple steps in an attempt to temper the radicalized segments of Wahhabi Islam, which the US intelligence community had marked as being a threat to the United States and its foreign interests after the events of September the 11th (Ismail, 2008). A large part of the spread of radicalized beliefs was deemed to be stemming from the support of *madrasas*, religious schools, inside of Saudi Arabia which were teaching an exceedingly rigid version of the Wahhabi doctrine to their students. In turn some of these students were adopting terrorism techniques, including random and targeted acts of violence, and in some cases even becoming suicide bombers, as a means of supporting their faith.

After identifying education as being a part of the spread of terrorism, the Saudi government recognized that intellectual security, the protection of ideas and beliefs, in addition

to physical security, needed to be a priority in combating the spread and continuation radicalized beliefs. In response one step that the government of Saudi Arabia took was to place the entire Saudi school system under the High Commission for Education, whose purpose was to administer a total review of the educational curriculum. This review was designed to remove teachings which specifically encourage or instigate religious intolerance, by removing "offensive teachings", revising the wording of textbooks, and the reeducation of classroom instructors (Ismail, 2008). Since all students inside the country are mandated to receive an Islamic education, the government was attempting to control what elements of the Wahhabist faith were being emphasized in the classroom.

A second step that the Saudi government took was the creation of re-education schools designed to correct the faith of individuals who were misunderstanding the Islamic faith. For errant believers which are imprisoned under the aims of national security for extremist views, they are forced to attend religious education classes which are designed to cause each prisoner to renounce their radical religious views. "There are a number of illustrative instances of this including campaigns such as the Munasha Prison Campaign for errant belivers… Prisoners attend religious classes dedicated to the discussion of concepts such as *al-wala' wa'l-bara'* and *takfir* (Ismail, 2008, 126)." These two terms represent teachings that support a loyal adherence to the Islamic faith while rejecting those who disbelieve and the pronouncement of other Muslims to be apostates, respectively. The United States has encouraged and supported the re-education programs in Saudi Arabia, even using them as a primary option to send prisoners who the government no longer desires to detain at Guantanamo Bay, where they are provided religious schooling before being reintegrated back into society (Raghayan & Finn, 2009; Solomon, 2009). In addition to the efforts being undertaken in Saudi Arabia, the U.S. military has been running

religious re-education programs in Iraq for detainees attempting to sort through teaching, assessments, and interrogations, who is able to be released and who must be kept in permanent detention (Pincus, 2007).

Officials who run these rehabilitation programs claim a respectable rate of success in converting the religious beliefs of the students (Ismail, 2007; Pincus, 2007). However, conducting a research study directly on this topic may prove to be prohibitively difficult to a researcher for a variety of reasons, cost, gaining permission, or even the willingness of participants to tell the truth. Therefore using the results from this study to attempt to gain insight into such a complex situation becomes an interesting thought exercise. While dealing with completely different populations, if one were to make a hypotheses judging from what has been discussed by the participants in these research interviews, it would seem unlikely that a highly educated religious extremists would be swayed by educational facts alone, if at all. None of the individuals in this study indicated that any factual information lead to changes in their spiritual belief. The research here would seem to suggest that a life experience, to begin the process of belief change, would be needed. Perhaps it is the act of being detained against one's will which is the catalyst for a future transformation of spiritual belief. However, while such an example is interesting to think about, it raised deeper questions, what would the value of an educational program be in attempting to adjust religious beliefs, if experience may be the fundamental factor in spiritual belief change? Is it even possible to forcefully change a person's spiritual beliefs against their will? Could it be that a lack of exposure to alternative ideas has been essential in keeping beliefs locked on only one way of viewing the world, therefore re-education, in fact, becomes education, providing individuals a new prospective who have little other knowledge? What about individual's who have a great deal of education and still choose a radical path?

Even without any of the answers to these questions it is crucial that educational psychologists begin to weigh in on current issues which relate to our field, such as the notion of religious re-education, which are tied directly to education and learning environments. In a day and age when ideas and ideologies are becoming the tools by which human beings are becoming weaponized, it is imperative that those who study the transfer of knowledge use our understanding of cognition to help create meaningful governmental policy in areas others than just public education.

Ways of Improving the Research Design

While I believe in the strength of the qualitative design employed for this dissertation, there are always potential areas for improvement that hindsight affords a researcher. One augmentation to the research method which may have been beneficial, while perhaps difficult to implement logistically, but which I believe would have produced a larger quantity of data, would be to change the interview format from a single long meeting time into two or three shorter meetings. The rationale behind such a change comes from a few times during the interviews in which participants had difficulty with recalling information to share from their history which applied to the question which was asked. In these situations a period of time was given to the participant for reflection, sometimes producing recalled memories which were then shared, but equally as frequently a participant was simply unable to recall detailed information. In changing the interview scheduling it would provide a respite period in between each interview that would allow the participant to incubate on what they had shared and perhaps cue other memories which would have otherwise remain buried and unshared.

Another design alteration which might be beneficial change to the methods would be to provide some sort of reward or encouragement for participation in the research interviews. While

it was prohibitively expensive for this particular researcher to be able to provide an enticing reward for participation, it would be a useful inclusion for a future researcher who had the financial means and was considering a similar research design. In conducting this project there was a substantial challenge in getting individuals to consent to meet and sit down for an hour long interview. While this difficulty may be especially distinctive to the graduate student and university faculty populations respectively, in so much as it being a high stress and an extremely busy environment, it is worthy of note that many individuals passed on participating. A concern which comes directly out the high number of potential participants who declined to be interviewed, it may be possible that the people who decided to be interviewed were particularly passionate about their personal spiritual beliefs and wanted to have them expressed, while individuals who were less ardent in their beliefs largely ignore the call for participants.

Future Research Directions

From the articles and books I was able to find in conducting the literature review for this study, there had been little research conducted on how education and religion interact to help shape the spiritual beliefs of individuals. In short, this means that there remains a wide diversity of topics which are left open to researchers who are interested and motivated to further our academic knowledge of the influence of education on spirituality. While this study begins to shed light as to how people who, have either attainted a higher education degree or are enrolled in a graduate level program, have had their spiritual lives shaped by learning experiences, it ignores the experiences of individuals who have alternative educational experiences. Therefore there is a much needed direction for future research in examining how education has influenced the spirituality of individuals who have had no formal education, very little formal education, education up to a high school diploma, or only a college degree.

Independent or coordinated research projects could be started to examine differing degrees of education and how each influences student spiritual beliefs. In focusing on groups of participants who share particular educational benchmarks, new themes might emerge from the data which are currently unknown. Hopefully with the completion of such a set of studies the collective research data would be able to present a cohesive argument which describes the overall strength and direction of spiritual belief change students undergo after exposure to formal public education, or refute that such a phenomenon even exists at all.

Speculating on what might be the results of such future research based on the current interview data; I would suggest it likely that the amount of education an individual has experienced could be expected to play a role in their ability to change or augment their spiritual beliefs; however it fails to be origin of the change itself. While not directly being a causal factor of change, the amount of knowledge an individual possesses, which can be used to defend changes of belief, seems to provide some basic cognitive support, or reassurance, to move in new directions of belief. In the interviews of individuals who had a graduate level education, their positions about spirituality were often nuanced and sustained by a series of ideas and arguments which had been assimilated by learning various facts about the world. We might therefore see that the less education an individual has, the less likely they are to be able to support and maintain a spiritual belief change, due to the lesser degree of exposure to diverse ideas. While unexpected life events may cause them to question what they believe, without an alterative set of explanations it becomes harder to make a substantial modification of spiritual beliefs.

Another area ripe for research would be to examine what types of information do individuals seek to learn when they are having a spiritual crisis. In trying to understand the role formal academic schooling has in spiritual belief change, it will become necessary to know what

subjects in particular are sought after in times of spiritual change. It would seem likely that there are common types of information which are usable by individuals to support changes of belief. While it would be easy to assume that the hard sciences and biology in particular, would be an essential area of exploration due to the epistemological differences between science and religion, it seems like such an expectation might be too narrow of an approach. The interview participants noted varying areas such as world history, psychology, and literature as key subjects of influence for spiritual belief change.

A third area for research would be to examine how education influences the spirituality of individuals who live and are schooled in other cultures. A similar research design to the one used in this study could be implemented again by researchers in a selection of culturally diverse of countries throughout the world. A repetition of this design would help to provide a much needed prospective on if humans from various cultural groups have a similar response to schooling and how it influences the development of spiritual beliefs. It would be particularly interesting to focus such a research project on the cultural diversity contained within the Middle East in an attempt to see how the citizens living in a region rich in religious heritage would respond to the interview protocol; even greater significant might come with examining a country such as Saudi Arabia in which the educational system was expressly designed to promote and maintain a specific belief system, and to restrict access to competing belief systems. It would be a unique opportunity to explore exactly how the opposite end of the spectrum from that of the United States where educational policy is modeled after the separate of church and state can be compared to how the promotion of an official state religion effects the development of spiritual beliefs of a population.

Lastly, it would be of interest to explore the overall notion of belief change as a result of educational instruction in greater detail apart from the topic of spirituality. Little is known about how schooling actually changes the deeply held perceptions and beliefs of students over time. While educators specifically assess for the memorization of factual information with tests or the understanding of ideas through written papers, we rarely look at the students in a more holistic manner. The importance of understanding the role of experiences in the process of how beliefs come to be adjusted over time is an insight into a whole new level of how influential education actually is in the lives of students. On a basic level it seems that the role of a public school is to take in students regardless of the beliefs and notions with which they first enter, and over time provide instruction which creates a uniform set of beliefs and facts known by all of the graduating students. Yet, if it is the desire of an educational system to do more than simply cause a student to memorize specific facts to pass standardized tests, then having a sound understanding of how education changes belief systems is paramount to designing efficient and effective educational curriculum.

Conclusion

In attempting to answer the original research questions some ground has been gained. The primary research question for this study was what influence does education have on students' spiritual or religious beliefs? To that end education appears to have a limited role in spiritual belief change, acting rather as a support and justification system for adjustments in belief. Fundamental changes in spirituality are reported to be as a result of life events and experiences. The supplementary questions to be explored began with, what types of information are identified as having caused augmentation of religious beliefs? Perhaps the most surprising of the questions, seems to be answered with asserting that there is no particular type of information

which causes a change in religious or spiritual belief after learning it, in fact not a single participant described ever learning anything which altered their beliefs upon coming to know that information. Even basic assumptions that subjects such as biology, might be the most likely to cause a question of beliefs seems to be inaccurate. Instead the participants described drawing support for their current spiritual beliefs from a wide assortment of disciplines including, English, psychology, sociology, history, research methods, and biology. Do individuals who have similar spiritual beliefs also have similar historical profiles? From the limited sample size of this study, I would tentatively state that with academics, there is little connection between their personal histories, and the belief system which they have selected to be a part of, other than to say that it seems in some cases life experiences have shifted individuals from one belief set to another. Do different religious or spiritual belief systems respond differently to education? There simply is too little information with which to make even an educated judgment on this question, it is best left to others to decide an answer.

The topic of how education influences the spiritual belief change of student needs to be continued and have expanded research into the future. It is a fruitful and unexplored area of educational psychology which has substantial implications for both students and educators, and yet has very little known about it beyond the limited research study presented here. The study detailed in the past five chapters has taken the personal interviews of sixteen of participants and attempted to find thematic commonalities within their described narratives of educational history and the process of spiritual change which they have undergone. In exploring these personal histories, one major theme was repeatedly asserted; that it is personal experiences which lead to spiritual belief change rather than learned factual knowledge. While specific facts and ideas are often used to support a transformation in spiritual beliefs, this application of learned knowledge

is used after a life event has served as the catalyst of change. These findings seem to contradict the assumptions individuals have about the role novel information has in the maintaining and revision of beliefs. Moving forward researchers need to establish larger scale research projects in an attempt to determine whether or not the introductory research conducted in this study has any merit to be generalized out into larger and a more diverse population.

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APPENDIX A

PARTICIPANT PROFILES

Amber, PhD Candidate Social Sciences, currently in her late twenties:

Amber was raised in western Africa and influenced strongly by her conservatively Catholic mother and grandmother. As a long child she went to Catholic Church with her grandmother, and grew up being told that, "Church was the way to go if you had problems." Amber went through difficult times as a kid which made her faith stronger by providing a place to find solace through reading the Bible and learning how current pain is only temporary and something better waited later. The only happiness she knew for the longest time was religion and it became extremely important growing up. Amber attended Catholic school from an early age until she went to college. However Amber believes that nothing she learned in school ever challenged her faith. Even learning about evolution failed to have any impact; she openly admits that she has never questioned her belief in creationism. She no longer practices Catholicism. As Amber grew in her understanding of spirituality she believes she became more open minded. She came to believe that accepting Christ as a personal savior was the most important part of her faith, and that the role of church was that of a fellowship with others rather than a requirement of devotion.

Amy, PhD Candidate Social Sciences, currently in her mid-twenties:

Amy was raised in the southern Gulf States region of the United Stated. Growing up within a Catholic household Amy went to church regularly as a family. Even at a young age religion was a large part of her life, for both spiritual and social reasons. As time went on her parents

divorced, and at around eleven years old Amy switched to a Methodist church because it was where her friends went to worship. By and large where Amy was raised, religious gatherings were seen as social events in additional to practices of faith. In early high school Amy began seeing value in the teachings she was listening to at the religious functions, and they became more important as a moral compass in her life. Progressing through her teenage years and into adulthood, Amy started to move away from a strictly religious interpretation of the world because of personal interactions with people she had experienced over the years. For her change in belief, Amy points to people whom she cared about, and knew where good people, who according to organized Christianity were condemned and going to hell. She refused to believe that a good God would send people to hell for things they were unable to control. From there she began to question her faith, and reinterpret and reanalyze what she had been taught, and come to her own understanding of being a Christian. She currently identifies with being a spiritually a Christian with a set of core beliefs, but doesn't follow the religious traditions of a particular branch.

Ann, PhD Candidate Social Sciences, currently in her mid-twenties:

Ann was raised in Canada within a family which was did not emphasize religious devotion. Her mother had a personal spirituality which emphasized living a life which doesn't hurt yourself or others, but she didn't push her beliefs onto her children. Her step-father was non-religious, and rarely even spoke on the topic. Religion in general did not enter into their daily lives, and as a child Ann placed little thought to issues of religion or spirituality. When in high school Ann's step-father unexpectedly died. This event caused Ann to begin seeking a greater understanding of spirituality, and brought up questions regarding the purpose and meaning of life. Even with her

greater interest into spirituality Ann currently has no affiliation with any religion, and believes that focusing on personal morality is more important.

Brian, PhD Candidate Social Sciences, currently in his late twenties:

Brian was raised in a military family, and because of that life style, grew up in a variety of locations within the United States and also internationally. He identifies himself as being disinterested in religion as a child, but that it began to strongly influence him during his teenage years once his family was posted in Mississippi. At that time Brian started going to a southern Baptist church, adopting their beliefs and becoming a born again Christian. During his mid-teens, Brian's mother died. While he wanted to question his faith for having lost his mother, Brian felt great guilt in doing so, and found relief in accepting Jesus had a plan for him. However, after a brief period of time of solace, Brian's doubts continued to nag him, and he found little sense in the actions of God, which seemed flippant. Brian went on to a Baptist college, but during his freshman year was bothered by both the hypocrisy and insulation at the school, and he decided to leave at the end of the academic year. In continuing with his education elsewhere, Brian began to resonate with the notion of the null hypothesis, and that a person should start from a position of disbelief, waiting for the evidence of existence to be provided. Currently, Brain is comfortably agnostic; he feels that it isn't his role in the world to solve age old issues of faith, nor is it even possible.

Derek, PhD Sciences, currently in his early thirties:

Derek was raised in the northeastern United States within a moderately Jewish household, with his parents' only really emphasizing religion at major holidays. While originally enrolled in a

Hebrew school program, Derek quickly lost interest in participating. As he aged he found himself moving away from formal religion and more towards looking at nature as a form of spiritual inspiration. Derek sees many logical contradictions in the various religious doctrines and for him the beauty and elegance of the natural world is a kin to a personal religion. Derek follows the notion that science is the closest humans can come to understanding a God, if there is one, instead of works of mythology written by people thousands of years ago. Derek continues to practice some of the major Jewish rituals with his young son, to provide him with cultural, rather than religious, heritage.

Emily, PhD Candidate Social Sciences, currently in her late twenties:

Emily was raised in a Christian family, having bible readings as a family every morning and attending church regularly. The institution of religion was very important to her growing up, although she admits to having fears as a child of not being Christian enough. Emily went to a Christian school until fifth grade and then was home schooled, until going to a Christian college. She chose to embrace Christianity as a teenager, but found that many people failed to act in accordance to the beliefs they professed, which lead to some personal confusion on the value of belief. She had a crisis of faith early in college due to a family event, which lead to be agnostic for a period of time, before coming back to a Christian belief system which was significantly different than how she was raised. She asserts that as in believing that God is in sovereign control of everything that education should be a priority of all believers, to learn more about God's creations, and that people should not have problems with apparent contradictions in the world since it is all of God's design.

Jonathan, PhD Education, currently in his late fifties:

Jonathan was raised in the Midwestern United States, participating in church functions, but always believing that there was something more to life than what he had observed in the lives of those around him. His experiences with the church lead him to believe that religion was simply wish fulfillment for the old and was of little interest to him. Coming from a family which didn't particularly value intellectual pursuits, he joined the military in the late 1960s as a way to find meaning and purpose in life. While larger ideals such as duty and honor were appealing to Jonathan, he soon found that the vast majority of people in the military were just as confused as he was about how to live their lives. During this time he began to question if there was anything that could provide meaning and purpose in his life. As he was about to be stationed in Vietnam, another enlisted man began talking to Jonathan about having a personal relationship with God through Christ. Others had tried to talk to him about their religious beliefs before, yet this individual stood in contrast, through his lived actions, too many of the others Jonathan had known. He spoke with Jonathan about how events in the bible were more than myths, such as the prophesizing of the creation of Israel, which caused Jonathan to question what other historic truths might exist in the bible. After his conversion and time in the military Jonathan went on to college. During this period he didn't have his faith challenged by education. As an example he asserts his belief in creationism was never confronted by science, due to his belief in the irreducible complexity argument.

Julie, PhD Candidate Social Sciences, currently in her late twenties:

Julie was raised in the Southern United States, and as a child she went to Presbyterian Church every Sunday, and some Wednesdays with her family. Religion was always a central part of her

family's life. Julie became very involved in the church as an adolescent, wanting to change her lifestyle after her older sister had been sent to boarding school for delinquent behavior. She became highly involved in youth groups and was the youth board member for the session in the church (the governing body). After seeing the inner workings of the church, especially how decisions were made, such as which families were helped and which were turned away, Julie was disgusted with the hypocrisy of the church leadership. After that time she stopped attending youth groups, and had a decline in religious belief. In college Julie stopped identifying herself as a person of strong conviction, and lessened the amount of time she went to church. Now Julie mainly goes to church for the social interactions, her faith has become a spirituality in which she values nature and less about specifically following the edicts of a religion. For Julie education has allowed her to be critical about life, and to not blindly accept the things people tell her on faith, but to question and analyze ideas.

Jen, MA Social Sciences, Currently in her late twenties:

Jen was raised in the Midwestern United States in a Catholic household, and was greatly influenced by Catholic beliefs as she grew up. She began to take issue with Catholicism around the time she went to college. Her explorations into the history of the church lead her to recognize how the religious institution had, and continued to, view and treat women and homosexuals in negative ways. The more she learned about this often overlooked side of the church, the less she felt like it was a belief system which reflected her own personal values. In seeing a disconnection between her views of a moral life and that of other professing Christians, Jen slowly moved away from the beliefs of her Catholic upbringing. Early in college she met an individual who was a practicing Buddhist. Jen looking for a concrete practice that joined a spiritual and moral

life style began the exercise of daily mediation. This daily practice provided Jen with a sense of connection to the world, providing a basis for her future spiritual development. In the years since Jen has been a Zen Buddhist, mediating on life and discussing moral issues with other Buddhists.

Mike, PhD Liberal Arts, currently in his early thirties:

Mike grew up in the Midwestern United States, and spent the first 18 years of his life in a Mormon family with strong religious beliefs, but then drastically moved away from those beliefs when he went away to college. Mike felt deeply connected to his faith at a young age, but in gaining a sense of the world through life experiences, Mormonism began to appear to him to be a largely regressive practice. Mike sites the refusal of members of the Mormon faith to ask even elementary philosophical questions about the world, as a troubling and disenchanting experience for him. He describes his change in belief as a slow defection from Mormonism, throughout this process he has explored various religious traditions, and found arguments which reflected his own beliefs in reading philosophy and comparative religion texts. Mike cautiously identifies himself as a pantheist, believing that a connecting force exists in all things, but remains highly critical of religions.

Molly, BA English, currently in her early thirties:

Molly was raised in the Northeastern United States within a Catholic household. She attended a private Catholic school for her early education through middle school and then switched to a public high school. Molly enjoyed and resonated with her Catholic education and upbringing, she believes she had a very positive childhood and experience within the church. However as she became a teenager Molly started to question doctrines of the church, specifically the role of

women, and issues central to women's rights such as birth control. She became frustrated at how women had been portrayed in the eyes of the church. Around this time Molly began to separate her intellectual understanding of the Catholic faith with her own personal spirituality and beliefs about morality. While she still occasionally prays, and enjoys the rituals of the church, she also sees great hypocrisy in their decisions. Molly no longer fallows the Catholic faith, and believes that love and respect for others are the two most important elements of her personal spirituality.

Robert, PhD Candidate Social Sciences, currently in his early thirties:

Robert was raised in the Northeastern United States, in a reformed Jewish household. Religion was of little real important to him growing up. His family was lax and rarely followed the practiced the rituals of faith, only celebrating the main holidays at temple a few times a year. Robert went to Hebrew school as a young boy and into adulthood, begrudgingly continuing his studies past his Bar Mitzvah at the behest of his parents. At the time he felt that Judaism as a religion was of little importance in his life, while recognizing the significance of continuing the Jewish traditions. Robert now believes that there is a fundamental distinction to be made between religion and spirituality; he came to this understanding through experiencing life events and extensive time abroad in China and Belize. Robert believes that all religions, being made by man, are deeply flawed, but furthermore that individuals can have a personal spiritual relationship with God or whatever, without the interference of religion.

Sally, BA Education, currently in her early twenties:

Sally was raised as a Jehovah's Witness. Religion was strongly emphasized within her household as she was growing up, and she remembers putting her full faith into the religion when she was a

child because it was taught to her by people she loved and trusted. However, as she aged she began to question some of the things her family's faith declared was immoral, especially the notion that individuals who were not apart of their religious group were inherently bad. Overtime she began to break way from her religious upbringing, and established spirituality based on Jewish traditions, which is the faith of her husband.

Sean, PhD Education, currently in his mid-thirties:

Sean grew up Southeastern United States with staunchly anti-religious parents, who had seen themselves as being damaged from their earlier experiences with religion, and so they deemphasized the role of religion in the life of their children. While the culture of the city and school Sean grew up with were evangelical Christian, he maintained agnostic beliefs throughout his early life and through college, but had a conversion experience when he began teaching at an inner city high school. He began teaching courses on African and world literature, which dealt with issues of spiritual and religion. The material he was teaching, along with his fellow faculty who saw their teaching in the urban school as a part of their ministry and outreach to youth. All of these factors built up to an adult conversion in his early twenties. Currently a professing Christian, who believes that there is a role for doubt in a strong faith, that a good deal of what God might ask a person to do is impossible. Sean believes that only by becoming more educated can people find religious truth, and that a lot of good science and religious have been lost by people limited what they learn. For Sean formal education helps to encourage and develop faith, and improves the interactions between those of faith and those who choose alternative beliefs.

Thomas, PhD Candidate Social Sciences, currently in his late twenties:

Thomas was born into a Roman Catholic family. He had a mother who was very religious and accepted on faith whatever she was told by the Church without ever questioning, and a father who was agnostic due to unfortunate events early on in his life. Thomas was sent to Catholic grade school for religious education, and from an early age believed that the complexity of the world was a clear indication that it was created by God. Thomas spurred on by academic conversations on religion in college, went through a two year period in which he strongly questioned his religious faith, and deeply explored other religious traditions. During this period he examined his core beliefs and found himself still aligned with the Catholic tradition. Thomas is a strong supporter of scientific discovery and research, but he admits he has never been able to question his fundamental belief that there was a god who started the process. God for him is perfect and loves us, however the world is not designed to be perfect, and therefore we are here to choose whether or not we want to accept God.

Tim, PhD Education, currently in his mid-sixties:

From an early age Tim went to Sunday school as a child, where his initial religious beliefs were formed. He continued to follow those beliefs through high school, until doubts began to emerge as he recognized a disconnection between the teachings of the bible and scholastic subjects. Specifically Tim saw a friction between the explanations of science and religion, two areas which were both of deep personal interest. Even with his doubts Tim's self identity was wrapped up in being a Christian, so he continued to struggle with his beliefs throughout college determined to find a way to put science and religion together. He admits to failing to his attempt to merge the two belief systems, sometimes being strong in his religious faith and at others

tossing them aside in favor of academics. Tim claims that he had a personal religious experience which caused him to "doubt his doubts", and strongly reinforce his religious beliefs. While his faith waned into his 30s, his beliefs had rebounded with his religious experiences, and when his children were born he, and his wife, began attending church again regularly. Since going back to church Tim has continued to be very active in his Presbyterian community for the past 25 years.

APPENDIX B

INTERVIEW PROTOCAL

Pre-Interview Participant Information Form

1. Age?

2. Gender?

3. What faith, if any, were you raised with?

4. What are your current spiritual beliefs?

5. Highest level of formal education?

Interview Protocol

1. Please tell the story of how you came to have your current spiritual beliefs as you can remember it.

2. How would you describe your current beliefs about spirituality and religion to someone who knew nothing about it?

3. How important was religion to you while growing up?

4. How would you describe what, if any, changes have occurred in your religious belief?

5. How has learning in a school setting impacted your spiritual beliefs?

6. Please describe a time when your spiritual beliefs were either reinforced or challenged by what you learned in school.

7. Under what circumstances did issues of faith or religion ever come out in the classroom?

8. How do you see education and religion being related?

9. Is there anything that I have missed that you would like to address in more detail?