

RELIGIOUS FUNDAMENTALISTS' EPISTEMIC  
BELIEFS AND RELATIONSHIP TO RIGHT-WING  
AUTHORITARIANISM

By

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## CHAPTER I

### INTRODUCTION

*It is high time that we subject religion as a global phenomenon to the most intensive multidisciplinary research we can muster, calling on the best minds of the planet. Why?*

*Because religion is too important for us to remain ignorant about.*

*Dennett, 2006, p. 14*

The attack on the Pentagon and World Trade Center on September 11, 2001 demonstrates a growing need to understand the effect of religiosity upon human behavior. Although these attacks may have been motivated by numerous sociopolitical factors, violence perpetuated across the globe seems to be exacerbated by conflicts among religious extremists (Jeurgensmeyer, 2000); and yet despite what seems to be a propensity for violence, religion also appears to function as a source of personal meaning and satisfaction for many people throughout the world (Clark, 1958). These contradictory manifestations of religiosity have also been noted by Allport (1954), who in his investigation of intolerance concluded, “The role of religion is paradoxical. It makes prejudice and it unmakes prejudice” (p. 444). These paradoxical influences of religiosity on social behavior, coupled with information from a recent Gallup Poll (2007) reporting that 86% of American respondents believe in God and 70% believe in the devil suggest that although organized religion may be declining in many Western countries (Altemeyer, 2004), religiosity itself may have numerous psychological, social, political, and

international implications for years to come. Before this paper proceeds further however, it will first be necessary to address some preliminary questions regarding religiosity.

What exactly does it mean to be religious? Is this the same thing as being spiritual, or is spirituality separate from religiosity? Is religiosity associated with how an individual conceptualizes the nature of knowledge and truth? Are these conceptions different from non-religious individuals and what role might personality traits play in these relationships? The application of empirical methods in studying religion is complicated by many definitional and conceptual issues. Although Spilka, Hood, Hunsberger, and Gorsuch (2003) state that there is no consensus among social scientists regarding the definition of religiosity and spirituality, or their relationship to each other, they do attempt to clarify the interests of psychologists studying religion when stating that they are mainly concerned with how “people are likely to express their faith through behavior (e.g., rituals), belief (e.g., belief in the supernatural), and experience (e.g., mystic states)” (p.6). This statement however, may lead one to ask what is faith, and what does it mean to express it through behavior, belief, and experience? Fowler (1981), who utilizes Paul Tillich’s (1957) theological conception of faith, views faith as a universal, developmental process reflected in an individual’s concern with ultimate reality. So now the question becomes, what do we mean by ultimate reality? Are we now facing a situation in which we must not only dissect our definitions, but also examine our ontological assumptions in order to empirically study religion? Although these issues may be important, continually dissecting definitions can lead to an infinite regress (Popper, 1965); so at some point we must simply accept the limitations of language, while also making efforts to clarify our terminology.



Hill et al.'s (2000) classification of religiosity and spirituality will be utilized in the present study. Hill et al. describe religiosity as an individual's search for the sacred, which is supported and validated by an identifiable group of people who have legitimized methods of searching for the sacred. The sacred is defined by Hill et al. as a "divine being, divine object, Ultimate Reality, or Ultimate Truth, as perceived by the individual" (p. 66). Religiosity may include the quest for non-sacred goals, such as identity, that can be related or unrelated to the pursuit of the sacred, but these goals are always fulfilled within the context of social settings that are designed for pursuing the sacred. Hill et al. state that spirituality is also characterized by a search for the sacred, but the distinguishing characteristic of spirituality from religiosity, is that spirituality is not necessarily pursuing the sacred through means that have been legitimized by an identifiable group.

The primary focus of the present study however, will be limited to an individual's current beliefs regarding the sacred, rather than their search for the sacred. This narrow focus allows one to further constrain the definition of religiosity to the degree to which an individual's beliefs correspond to an identifiable group's stated means for pursuing the sacred as well as their definition of the sacred itself. For example, religiosity within a Christian framework could be labeled as the degree to which an individual accepts "well-defined Christian tenets," such as those espoused in the Nicene Creed, which are common to both Catholic and Protestant doctrines (Fullerton & Hunsberger, 1982, p. 318). This definition would allow us to measure an individual's degree of adherence to "orthodox" religious doctrines, which could easily be applied to other religious frameworks, such as Hinduism or Islam. The goal of the present study however, is not so

much to specify these specific frameworks, as much as it is to dissect the implications of an individual's attitude about their religious framework.

Fundamentalism is considered a "rigid, dogmatic way of being religious" (Spilka, Hood, Hunsberger & Gorsuch, 2003, p.465), and is a construct designated to capture an individual's attitude about their religious beliefs (Altemeyer, 2003). In religious fundamentalism the role of the sacred is thought to primarily revolve around creating a broad meaning system, which results from the adherence to and reverence of particular texts, such as the Quran or Bible (Hood, Hill, & Williamson, 2005). In understanding religious fundamentalism it is important to note that the specific designation of what is defined as sacred by an identified group may vary from religion to religion, but what the group or individual believes about what they have termed sacred does not vary from religion to religion.

This point is best illustrated when one examines how religious fundamentalism has been operationalized. Altemeyer and Hunsberger (1992) first devised the Religious Fundamentalism scale in order to measure the attitudes that people have regarding their religious beliefs. In doing so, they state that religious fundamentalists uphold the following beliefs about their religious beliefs:

the belief that there is one set of religious teachings that clearly contains the fundamental, basic, intrinsic, essential, inerrant truth about humanity and deity: that this essential truth is fundamentally opposed by evil which must be vigorously fought: that this truth must be followed today according to the fundamental unchangeable practices of the past; and that those who believe and

follow these fundamental teachings have a special relationship with the deity ( Altemeyer & Hunsberger, 2004, p.118).

In other words all religious fundamentalists, regardless of what they specify as sacred, believe that their specification of the sacred is the one true specification, that this specification allows them a privileged relationship with a deity, and that the teachings associated with these specifications are not only unalterable, but are opposed by forces of evil, which must be fought. Therefore, the operational definition for religious fundamentalism will be the degree to which an individual upholds these beliefs, as indicated by the religious fundamentalism scale.

Religious fundamentalism is consistently reported as having a positive relationship to authoritarianism (Altemeyer & Hunsberger, 2004, 1992; Laythe, Finkle, & Kirkpatrick, 2001; Hunsberger, Owusu, & Duck, 1999; Hunsberger, Alisat, Prancer, Pratt, 1996; and Wylie & Forest, 1992), among samples as diverse as Christians, Jews, Muslims, and Hindus (Hunsberger, 1996). Authoritarianism is frequently measured with the Right-Wing Authoritarianism (RWA) scale, and has been defined as the co varied effect of three attitudinal clusters which are labeled authoritarian submission, authoritarian aggression, and conventionalism (Altemeyer, 1981). Altemeyer defines these attitudinal clusters as follows:

1. Authoritarian submission—a high degree of submission to the authorities who are perceived to be established and legitimate in the society in which one lives;
2. Authoritarian aggression—a general aggressiveness, directed against various persons, that is perceived to be sanctioned by established authorities; and

3. Conventionalism—a high degree of adherence to the social conventions which are perceived to be endorsed by society and its established authorities (p.148).

Altemeyer (1988) has reported that RWA has been associated with acceptance of government injustices, acceptance of law as a basis of morality, willingness to impose less severe punishments on authorities perceived to be legitimate (e.g., a police officer who beat up a “hippie”), a greater inclination to impose electrical shocks to a confederate in a mock learning experiment, and mild relationships to “right-wing” political parties (p. 9-11).

Altemeyer’s conceptualization of authoritarianism has been criticized for his use of the term “right-wing,” and on grounds that the RWA scale is nothing more than a measure of conservatism (Ray, 1985, 1990). There have also been questions as to whether RWA is a cross-cultural construct, and if left wing authoritarians actually exist (Altemeyer, 1996; Ray, 1985; 1983; Eysenck, 1981). Altemeyer (1996) has stated that in using the term “right-wing,” he was not interested in political or economic ideologies, as much as he was using the term to apply in the “psychological sense of submitting to the perceived authorities in one’s life” (p. 10). What authorities are perceived to be legitimate are likely to change from society to society. For example, a right-wing authoritarian in communist China would uphold a different political ideology than a right-wing authoritarian in the United States; although their tendency to submit to these authorities, and their willingness to enact aggression against people who the authorities condemn, would not vary.

Although Altemeyer (1996) had problems locating an authoritarian on the left, recent research has been capable of suggesting their existence (Hiel, Duriez, &

Kossowska, 2006; Pentony et al., 2000). Cross cultural research has also shown that high right-wing authoritarians demonstrate propensities for having an outgroup bias in not only the US, but also in Russia and the Czech Republic (Altemeyer & Kamenshikov, 1991; Dunbar & Simonova, 2003). Validation of the RWA scale has also occurred among samples in South Africa, Israel, and Palestine (Duckitt & Farr, 1994; Duckitt, 1993; Rubenstein, 1996, 1995). Other cross-cultural research has shown RWA to be a significant predictor of sexism in Ghana (Hunsberger, Owusu, & Duck, 1999) and a significant predictor of bias against Gitanos in Spain (Dunbar, Blanco, Sullaway, & Horcajo, 2004). Furthermore, recent research has suggested that although RWA and conservatism are related, RWA is not synonymous with conservatism and should be considered a distinct construct (Crowson, Thoma, & Hestevold, 2005). This is not surprising given Altemeyer's (1988) position, stating that although the conventionalism within RWA suggests a potential relationship between RWA and conservatism, it is wrong to suspect that conservative people easily submit to established authorities and are willing to enact aggression against people who disagree with these authorities; and it is these two attitudinal clusters that can distinguish RWA from conservatism. In other words, despite RWA being labeled a controversial construct, there appears to be sufficient cross-cultural evidence and discriminant validity to justify its continued use. For the purposes of the following study, RWA will be operationally defined as the degree to which an individual endorses authoritarian submission, authoritarian aggression, and conventionalism, as indicated by the RWA scale.

In exploring the relationship between religious fundamentalism and RWA, which typically exhibits a correlation in the .70s (Altemeyer, 2005) it should first be noted that

this phenomenon occurs within a sociohistorical and political context. American Fundamentalism for example, began as a social movement in the early 20<sup>th</sup> Century and was largely a reactionary movement against modernism (Hood et al., 2005). This movement was given further impetus by the infamous Scopes “Monkey Trial” in 1925, and later in the 1960s with the teaching of evolutionary theory in public school systems across the country (Levinson, 2006). This movement continued to gain political influence with the election of Ronald Reagan in the 1980’s and is strongly associated with the Republican Party in 28 states (Wilcox, 1996). Although the sociohistorical context of this movement is important for understanding the relationship between fundamentalism and political attitudes on a sociological level, the present paper will focus primarily upon the intraindividual explanations of the relationship between fundamentalism and authoritarianism.

In regards to intraindividual explanations, it has been asserted that fundamentalists might be taught authoritarian submission, authoritarian aggression, and conventionalism at an early age as part of their religious upbringing (Altemeyer, 1988, 2005). Altemeyer (1988) has also stated that these teachings potentially create a situation in which each construct reciprocally reinforces the other; although religious fundamentalism is also considered to be one possible manifestation of RWA, since RWA is considered more foundational than fundamentalism (Hunsberger, 1995). This is due to the possibility that RWA may manifest itself in numerous ways that are not necessarily related religious ideology, thereby suggesting that religious fundamentalism may be one of many possible manifestations of RWA. In elucidating the connection between RWA

and religious fundamentalism, Altemeyer (2005) makes the following comments regarding the upbringing experienced by many religious fundamentalists:

They report being taught that their religion's rules about morality were absolutely right and not to be questioned, that they had to strictly obey the commandments of an almighty God, and the persons who acted as God's representatives, such as priests, ministers, pastors, or deacons, had to be obeyed....In short, obey the proper authorities, condemn the evildoers, follow the rules (p.390).

Altemeyer has speculated that these teachings directly reinforce authoritarian attitudes. Although this may be a viable possibility, Altemeyer's analysis yields another plausible interpretation—these teachings are structuring an individual's personal epistemology, and once structured, it is an individual's personal epistemology which mediates the relationship between authoritarianism and fundamentalism.

Epistemology is a branch of philosophy that is concerned with the nature of knowledge, and the relationship of the knower to the known (Crotty, 2003); and as a philosophical discipline it is primarily concerned with improving our current set of beliefs by eliminating those beliefs that are unjustifiable and replacing them with beliefs that are more justifiable (Chisholm, 1989). Within psychology however, the topic of epistemology has been addressed by examining an individual's beliefs about the nature of knowledge and the nature of knowing (Hofer & Pintrich, 1997), with the structure of these beliefs then being labeled as an individual's personal epistemology. Hofer and Pintrich state that inspection of an individual's conceptualization of the nature of knowledge is usually done by examining their beliefs regarding the certainty and simplicity of knowledge. For example, an individual's beliefs regarding the nature of

knowledge can be viewed as ranging from certain to uncertain and simple to complex. They state that investigating the nature of knowing is usually examined by identifying a person's beliefs about the source of knowledge and their justification of knowledge claims. For example, people can view knowledge as primarily authority driven or they may view knowledge as deriving from a subjective, self-constructed process. The justification of knowledge examines the use of evidence and reasoning when an individual evaluates claims to knowledge.

Although controversial (Pintrich, 2002), some researchers have included beliefs about learning as dimensions of epistemological beliefs (Schommer, 1995; Schraw, Bendixen, & Dunkle, 2002). These categories of personal epistemology include beliefs about whether learning is fixed or malleable, and beliefs regarding whether learning occurs quickly or not at all. Schommer (1990) was the first to hypothesize 5 dimensions of epistemological beliefs, which included simple knowledge, certain knowledge, innate ability, omniscient authority, and quick learning. Schommer's primary challenge was the fact that omniscient authority failed to emerge when she factor analyzed her questionnaire. This problem was remedied however, when Schraw, Bendixen, and Dunkle (2002) developed the Epistemic Belief Inventory, which had all 5 hypothesized epistemic dimensions emerge. These dimensions will be utilized in the present study, thereby characterizing epistemic beliefs by an individual's tendency to believe in simple knowledge, certain knowledge, innate ability, omniscient authority, and quick learning, as indicated by the Epistemic Belief Inventory.

Returning to Altemeyer's (2005) suggestion that the religious teachings reported by many fundamentalists are directly reinforcing authoritarian attitudes, let's examine



these teachings when utilizing the dimensions of epistemological beliefs. Altemeyer states that from an early age fundamentalists report being taught that their religious teachings are not only absolute (certain and simple knowledge), but that they must submit to the authority of church leaders and an all-knowing God (omniscient authority) as the source of religious knowledge. It has also been proposed that a key component of fundamentalism is the reliance upon and reverence of sacred texts for generating a comprehensive meaning system or worldview (Hood, Hill, & Williamson, 2005), which implies that regardless of whether church leaders are considered omniscient, sacred texts are. In other words, religious fundamentalists may be taught an epistemology that believes knowledge within the religious domain is certain, simple, and derived from an infallible, all-knowing authority. It is possible that this epistemology is then partly responsible for sustaining the relationship between fundamentalism and authoritarian attitudes.

Previous research has suggested that religiosity may affect how an individual resolves epistemic doubt (Bendixen, 2002), and has suggested that individuals who uphold orthodox religious views tend to be dualistic (black and white) in their thinking (Desimpelaere, Sulas, Duriez, & Hutsebaut, 1999); which is a feature said to characterize the early stages of epistemological development (Perry, 1970). Personal epistemology has also been associated with an individuals' ability to analyze reasoning fallacies (Ricco, 2007), although some evidence suggests that many people who are capable of employing logical reasoning fail to do so when evaluating two self-contradictory religious claims; thereby suggesting that relativism may be common within the religious domain (Montgomery, Sandberg, & Zimmerman, 2005). Despite this line of research, and even

suggestions that epistemological change is associated with spiritual development (Buker, 2003), little work has been done to dissect the epistemic beliefs of religious adherents or how these beliefs may be associated with RWA.

The purpose of the present study is therefore four-fold. First, the relationship among religious fundamentalism, epistemic beliefs, and RWA will be examined. Second, an analysis will be conducted investigating the differences in epistemic beliefs among high and low fundamentalists. Third, the potential mediating effects of epistemic beliefs on the relationship between religious fundamentalism and RWA will be inspected. Finally, implications for future research and educational practices will be discussed.

#### Significance of Study

Examining the differences in epistemic beliefs among high and low religious fundamentalists, while also inspecting the potential mediating effect of epistemic beliefs upon the relationship between religious fundamentalism and RWA may have both theoretical and pragmatic implications for researchers and practitioners alike; although the theoretical contribution of the present paper is thought to temporarily outweigh possible pragmatic applications. The justification for this idea is based upon the premise that pragmatic application will always be limited by theoretical understanding. In other words, in order to apply a concept one must first have some understanding of the concept. Personal epistemology is a relatively new construct within educational research, and the construct itself has only recently begun to receive attention in part due to the seminal work of William Perry (1970); furthermore, there is little agreement about the scope, definition, and measurement of this construct (Hofer and Pintrich, 1997). Despite these limitations the primary focus of the present paper has been to synthesize the research in

personal epistemology, RWA, and religious fundamentalism in order to provide a new interpretation of why RWA and religious fundamentalism may be associated, while simultaneously dissecting the epistemic beliefs of these religious adherents. This effort to synthesize the literature and provide a new interpretation of the data was done in the aspiration that it may act as an impetus for future research, while also providing insight into how these three constructs may be interrelated.

Nevertheless this is not to say that the current study is without pragmatic applications, it is only to say that it is difficult to ascertain the exact scope and nature of these applications until greater understanding of these constructs is achieved. Educational practitioners may use epistemic beliefs as a mechanism for better understanding how religious fundamentalists integrate diverse perspectives and respond to information which may be challenging to their meaning system (e.g. the theory of evolution). Furthermore, a better understanding of the epistemic beliefs associated with religious adherents may have therapeutic applications, in that the epistemic beliefs associated with fundamentalism may impose unique challenges and opportunities in a clinical setting. For example, a fundamentalist who is currently experiencing depression and who simultaneously believes that knowledge derives from an omniscient text may clinically respond better in a therapeutic setting in which this text is used to alter the belief system of the participant. As mentioned above a better understanding of these constructs may be necessary before these applications are feasible, although these applications may be areas for future research.

Research Questions:

1. What is the relationship among religious fundamentalism, epistemic beliefs, and right-wing authoritarianism?
2. What is the strength of the relationship between the linear combination of epistemic beliefs and right-wing authoritarianism on religious fundamentalism?
3. What is the strength of the relationship between religious fundamentalism and right-wing authoritarianism after controlling for epistemological beliefs?
4. Are high religious fundamentalists more likely to believe in certain knowledge than low religious fundamentalists?
5. Are high religious fundamentalists more likely to believe in omniscient authority than low religious fundamentalists?
6. Are high religious fundamentalists more likely to believe in simple knowledge than low religious fundamentalists?

Assumptions:

1. It is assumed that religious fundamentalism, RWA, and epistemological beliefs, are constructs with a quantifiable structure (Michell, 1999).

Limitations and Delimitations:

1. The present study is utilizing a convenience sample, which limits the generalization of results.
2. The study is focusing upon the relationship between said variables or differences among pre-existing groups of individuals, therefore limiting causal inferences.
3. It is understood that there are numerous ways of conceptualizing religiosity and this study is strictly limited to fundamentalism, as operationally defined.

Therefore, the study does not empirically assess implications of religious maturity

(Fowler, 1981), religion as quest (Batson, 1976), or Allport's (1950) distinction between intrinsic and extrinsic religious orientations.

4. Since all participants were presented the instruments in the same order, possible order effects of these instruments were not examined in the present study.



## CHAPTER II

### REVIEW OF LITERATURE

*Well, some people believe that we evolved from apes and that's the way they want to believe. But I would never believe that way and nobody could talk me out of the way I believe because I believe the way it's told in the Bible.*

*King and Kitchener, 1994, p.53*

It has been recently proposed that religious fundamentalism is primarily characterized by the tendency to derive, and create a broad meaning system that is centered upon the adherence to, and reverence of a sacred text (Hood, Hill, & Williamson, 2005). The purpose of the present chapter is to explore the meaning system of religious fundamentalists by examining their beliefs about the nature of knowledge and knowing, or their personal epistemology. This investigation will focus upon the nature and resolution of religious and epistemic doubt, and the potential role an individual's belief in simple and certain knowledge, and omniscient authority may play within such a meaning system. Although some studies have documented the content of religious doubt, and the paths taken to resolve such doubt (Altemeyer & Hunsberger, 1997; Hunsberger & Altemeyer, 2006; Hunsberger, Alisat, Prancer, & Pratt, 1996; Hunsberger, Pratt, & Prancer, 1994), no known researcher has connected the content of religious doubt or the path taken to resolve such doubt to an individual's personal epistemology. This line of research has been neglected within the psychology of religion, despite evidence which suggests that adhering to religious meaning systems may influence how epistemic doubt

is resolved (Bendixen, 2002), and evidence that suggests a tendency for religious orthodox individuals to uphold dualistic beliefs (Desimpelaere, Sulas, Duriez, & Hutsebaut, 1999). Finally, speculations regarding the reason fundamentalism and authoritarianism are strongly related have focused on the idea that fundamentalist teachings directly reinforce authoritarian attitudes (Altemeyer, 1988, 2005; Hunsberger, 1995). Although this explanation may be a viable possibility, the current chapter will provide a new interpretation of this occurrence by suggesting that the teachings associated with the fundamentalist meaning system is best understood when deconstructed as components of epistemological beliefs, and once structured it is these beliefs which may then explain the relationship between fundamentalism and authoritarianism.

### Conceptualizations of Personal Epistemology

Epistemology is a branch of philosophy that is concerned with understanding the nature of knowledge and the relationship of the knower to the known (Crotty, 2003). As a philosophical discipline it is primarily concerned with improving our current set of beliefs by eliminating those beliefs that are unjustifiable and replacing them with beliefs that are more justifiable (Chisholm, 1989); therefore, epistemology as a philosophical discipline has a tendency to emphasize how knowledge claims are justified by utilizing principles of reason (Solomon, 1986). In other words, epistemology from this perspective is concerned with understanding what it means to “know” something, and separating beliefs that are unjustified from beliefs that are more justified. Although epistemology has been debated among philosophers for several centuries, it has only been in recent years that psychologists have become interested in examining the role



epistemology may play within the individual; and this recent interest in epistemology among psychologists can largely be attributed to the seminal work of William Perry (1970).

Perry was primarily interested in examining the intellectual and moral development of students as they progressed through college. After conducting longitudinal interviews of predominantly undergraduate males at Harvard and Radcliff, Perry constructed a schema depicting the development of students' beliefs about the nature of knowledge. Initially in Perry's schema, students' beliefs about knowledge are said to be characterized by dualism. Students from a dualistic perspective have a tendency to view knowledge as absolute and certain, which Perry believed to be a form of black and white thinking. As student's progress through the schema they begin to question the absolutist notions of dualism, and begin to enter what Perry refers to as multiplicity. Multiplicity is essentially a form of relativism, and is distinguished by the recognition that diverse opinions can be valid. Initially students only recognize multiplicity within some domains of human knowledge, but eventually this recognition is generalized to all domains, and there is a tendency for students to believe that each person is entitled to their opinion, and all opinions are equally valid. Perry believes that as students' views become increasingly complex however, they are capable of forming contextual judgments or evaluations within a relativistic world, and are thereby capable of forming tentative intellectual commitments.

A relevant component of Perry's schema for the present discussion is his documentation of the role authority played within students' epistemic development. Throughout his book, Perry uses the Garden of Eden as an analogy to describe the

epistemic changes that occur in the college years. Perry states that in the Garden of Eden it was “the serpent who pointed out that the Absolute (the truth about good and evil) was distinct from the Deity and might therefore be known independently—without his mediation” (p.67). Perry states that dualism is characterized by a tendency to view authority figures as omniscient arbiters of truth. As a student progresses through the schema however, they are forced to confront the existential emptiness and uncertainty associated with the loss of absolutist ideals, or in other words, the loss of Eden. As they encounter this loss, students’ view of authority changes from viewing authority figures as omniscient to recognizing that authority itself is struggling with the construction of knowledge in a relativistic world. Students eventually begin to see, primarily by encountering diversity, that human knowledge is not only uncertain, but continuously evolving according to new evidence.

King and Kitchener (1994) also constructed a developmental schema similar to Perry’s, which they refer to as the Reflective Judgment Model. This model is also a stage theory which depicts the development of individuals’ beliefs about knowledge. The Reflective Judgment Model examines the sophistication of an individual’s beliefs regarding the source of knowledge and their justification of knowledge claims by investigating how individuals respond to ill-structured problems. This model is divided into three categories, labeled Pre-Reflective, Quasi-Reflective, and Reflective thinking, and each category is further divided into sub-stages. Pre-Reflective thinking is categorized by an individual’s tendency to view knowledge as absolute, and their reliance upon authority figures as not only the source of knowledge, but also as a means for justifying knowledge claims. In Quasi-Reflective reasoning an individual recognizes the

uncertainty of knowledge claims and believe that in areas of uncertain knowledge, opinions rule. Therefore, individuals within this category often fail to make adequate distinctions between a well reasoned argument and a poor argument. Reflective thinking occurs when an individual comes to realize that “knowledge is not a ‘given,’ but must be actively constructed and that claims of knowledge must be understood in relation to the context in which they were generated” (p.66). In other words, reflective thinking “requires the continual evaluation of beliefs, assumptions, and hypothesis against existing data and against other plausible interpretations of the data (p. 7), which is similar to Perry’s view of commitment within relativism.

Kuhn (1999) has also taken a developmental perspective in depicting personal epistemology and has identified categories and processes that are very similar to that of Perry (1970) and King and Kitchener (1994). Kuhn’s (1999) categories of epistemology include Realist, Absolutist, Multiplist, and Evaluativist. A Realist believes that assertions are direct copies of reality; and that knowledge is certain and primarily derived from external sources. Since assertions are direct copies of reality, it is unnecessary to employ critical thinking. The Absolutist believes that assertions are better understood as facts that can either correspond or fail to correspond with reality. These facts however, are still viewed as deriving from external sources and are certain. The Absolutist according to Kuhn employs critical thinking in order ascertain fact from fiction. The Multiplist perspective has begun to understand the uncertainty of reality and believes knowledge to be a construction of human minds. The Multiplist, although recognizing that knowledge is a human construction, believes that it is impossible to evaluate these constructions thereby making all opinions equally valid. In other words, critical thinking is

unnecessary for the Multiplist because all opinions are equally legitimate. The Evaluativist, displaying the greatest sophistication of all perspectives, demonstrates understanding of the uncertainty of human knowledge, but employs critical thinking in order to derive contextual judgments and evaluations.

Kuhn and Weinstock (2002) have also speculated that the primary developmental task of personal epistemology is the “coordination of the subjective and objective dimensions of knowing” (p. 123). For example, they state that their primary task of transitioning from an absolutist perspective to a multiplist perspective is the recognition of the subjectivity of knowledge. However, in order to make the transition from a multiplist perspective to an evaluativist perspective, one must learn to re-integrate the objective dimension of knowing with the subjective means of knowing. This integration of the subjective and objective means of knowing is also similar to other conceptualizations of personal epistemology employed by researchers who have delineated from the developmental approaches.

Belenky, Clinchy, Goldhaber, and Tarule (1986) for example, who were critical of Perry (1970) for constructing an epistemic scheme from data originating from predominantly elite men, extended the study of personal epistemology to women. Belenky et al. sampled 135 women from academic and family based institutions and through extensive interviews identified several epistemological perspectives, rather than stages. The data collected by these authors emphasizes the role authority played in these women’s view of knowledge by examining how their relationship to authority figures impacted their inner voices, or their ability to recognize themselves as active agents in the construction of knowledge. The epistemological perspectives identified by Belenky et al.

include Silence, Received, Subjectivist, Procedural, and Constructivist. The Procedural perspective is further broken down into Separate and Connected knowers.

Belenky et al. describe the position of “Silence” as a perspective in which the women were unaware of their own inner voices and dependent upon external authority for knowledge. In describing the role authority played in the perspective of Silence, Belenky et al. notes that “the actions of these women are in the form of unquestioned submission to the immediate commands of authorities, and not to the directives of their own inner voices” (p.28). In the epistemic position of Received Knowledge however, the individual has come to understand “the power of words in learning” and they primarily learn by listening to the authorities in their lives (p.37). Despite their newfound understanding of the power of language, the individual’s from this perspective still displayed a strong reliance upon authority, and seemed to be unaware of their own inner capacity to construct knowledge. A radical shift in the perception of authority occurs however for women labeled as Subjective knowers. Belenky et al. deduced that these women’s shift to subjectivism occurred primarily as a result of “failed male authority” (p.56). This frustration with the authority in their lives led to extreme trust in “first hand experience and what feels right,” as a primary means for acquiring knowledge. This newfound skepticism of authority also led to “distrust of logic, analysis, abstraction, and even language itself” (p.71).

The departure from authority as the source of knowledge is also displayed by the other epistemological perspectives identified by Belenky et al. For example, Procedural knowers, whose perspective is further broken down into Separate and Connected knowers, have become familiar with the procedures or methods for obtaining knowledge;

although these procedures vary from Separate and Connected knowers, with Separate knowers employing skeptical analysis and doubting as a means for forming knowledge and Connected knowers employing empathy as a means to increase understanding. The Constructivist epistemological position is primarily characterized by a balancing act between separate and connected methods of knowing, which appears to be similar to Kuhn and Weinstock's (2002) conceptualization of evaluativists who must balance the subjective and objective dimensions of knowing. Schommer (1990) has taken a different perspective than all of these researchers in her conceptualization of personal epistemology by not only employing a reductionistic and multidimensional approach to measuring personal epistemology, but also in her decision to include beliefs about learning as categories of epistemological beliefs. She proposed that epistemic beliefs are best examined as more or less independent categories of beliefs, which she labeled Innate Ability, Simple Knowledge, Quick Learning, Certain Knowledge, and Omniscient Authority. Each of these categories of beliefs are viewed as ranging on a continuum. The spectrum of Innate Ability is designed to measure whether an individual believes that ability is fixed or malleable. Simple Knowledge is constructed as a spectrum ranging from an individual believing that knowledge is isolated bits of information, to knowledge being viewed as interrelated. Quick Learning ranges from an individual believing knowledge acquisition to occur quickly or not at all to an individual viewing the acquisition of knowledge as a gradual process. Certain Knowledge ranges from an individual believing that knowledge is absolute, to the view that knowledge is evolving. The Omniscient Authority category ranges from the belief that authority figures are an

all-knowing source of knowledge, to the belief that knowledge derives from a self-constructed process.

There are many different ways of conceptualizing personal epistemology, and the previous review is far from being inclusive. Despite these different conceptualizations of personal epistemology, it is possible to find commonalities or themes among most models. In a comprehensive review of personal epistemology literature, Hofer and Pintrich (1997) found that most models of personal epistemology have dimensions of the nature of knowledge and the nature of knowing in common. Each of these dimensions can be further divided into two sub-categories. The nature of knowledge is primarily examined by investigating an individual's view of both the simplicity and certainty of knowledge. The dimension labeled by Hofer and Pintrich as the nature of knowing is commonly investigated by examining an individual's beliefs regarding the source of knowledge and their justification of knowledge claims. These common themes in personal epistemology models will be now be applied to religiosity, doubt, and fundamentalism.

#### Religious Transformations, Experiencing Doubt, and Personal Epistemology

Despite evidence suggesting that the influence of organized religion has declined in many western countries (Altemeyer, 2004), a recent Gallup Poll (2007) within the United States found that 86% of the respondents reported that they believe in God, 70% of the respondents reported that they believe in the devil, and 77% of respondents reported that they believe the Bible is the actual or inspired word of God. An earlier Gallup Poll (2006) indicated that approximately 72% of asked respondents reported that they had never switched religious preferences, while 15% reported switching religious

preferences, and 10% reported moving away from any religion whatsoever. These statistics suggest that although formal religious influence may be declining in some parts of the world (Altemeyer, 2004), the existence of religious or spiritual beliefs still seem to be prominent in American society. So why do some people maintain religious beliefs and others choose to reject them? Are these decisions possibly associated with an individual's personal epistemology? Are religious transformations associated with epistemological transformations? Does the content of religious doubt and its resolution have an epistemic quality? The purpose of the following section is to examine these questions.

In answering the first question, which is highlighted by the 72% of the Gallup (2006) sample which reported that they never switched religious preferences, it appears that socialization, or "the process by which a culture (usually through its primary agents, such as parents) encourages individuals to accept beliefs and behaviors that are normative and expected within that culture" (Spilka et al., 2003, p.102), may play an important role in the establishment of religious beliefs. The influence of religious socialization is best exemplified by understanding that if an individual is born in a predominantly Muslim country, to a Muslim family, living in a predominantly Muslim town, then it is extremely likely that this individual will be a follower of the Muslim faith. Some have even argued that what are considered religious beliefs, and even religious institutions are better understood as expressions of sociohistorical contexts and culture, (Smith, 1962). Despite the possible influence of sociohistorical context, culture, and socialization, is it possible that individuals who are raised in religious environments still experience religious doubt? If so, what do these doubts specifically consist of, and how are they resolved?



Furthermore, the effects of socialization appear to be limited, as is suggested by the 15% of individuals who switched religious preferences, and the 10% who reported moving away from any religion whatsoever (Gallup, 2006). What role might religious doubt play in individuals who choose to switch religious preferences or move away from any religious whatsoever? How might epistemology be associated with these experiences?

An implied association between epistemological change and spiritual development has recently been suggested by Buker (2003). Buker equates epistemological change with spiritual development, which involves a “radical transformation in the way the person experiences the world” (p. 144). These radical transformations are then analyzed according to what is termed first, second, and third order change. He then compares these changes to spiritual development in a Christian perspective. Buker believes that first order change is aligned with “commonsense” change, in which an individual alters their behavior through willpower, but fails to undergo radical transformations of one’s perceived relation to the world. First order change is considered lower, and is therefore not associated with the “true” epistemological changes of second and third order change. Second order change occurs whenever the individual recognizes the futility of willpower, thereby surrendering to the larger system. Second order change is characterized by recognizing one’s powerlessness, which according to Buker paradoxically produces a sense of power. Buker believes third order change is essentially a complete act of surrender.

When applied to a Christian framework, Buker believes that first order change occurs whenever an individual exerts willpower in order to live their life without sin. Second order change occurs whenever the individual recognizes the futility of willpower

in living without sin, and by this recognition “becomes open to the epistemological shift that allows for experience of second-order change, which in this case involves reception of grace through an exercise of faith” (p. 150). In other words, after recognizing that they cannot live free from sin by willpower, they become open to redemption from sin by having faith in God’s grace. Third order change entails another epistemological shift, in which the individual completely surrenders to God’s will. Buker views this state of surrender as “an active choice to relinquish ones will to God’s rule” (Wong-McDonald & Gorsuch, 2000, p. 149). Buker states that at this level of epistemological change, “a person’s knowing has less to do with self and more to do with God, as He or She is understood. Life is being lived through the will of another (Higher Power), rather than through one’s own” (p.151).

Buker’s association of spiritual development with epistemological change appears to be partly supported by another line of research. Bendixen (2002) conducted a qualitative study in order to determine the paths people take in resolving epistemological doubt; which is simply defined as doubting one’s beliefs at any point in epistemic development. She gave 129 undergraduate students a logical reasoning test, reading comprehension test, and an essay asking the participants to respond to the question, “Is truth unchanging?” She then selected 8 males and 7 females from the subject pool that had no significant differences from the total mean score on the logic and reading test. The subjects were primarily selected on the basis of having an “articulate” and “interesting” response to the essay (p.195). The subjects then went through an interview process regarding their beliefs about knowledge, what affected those beliefs, and how the resolved doubt.

From the interview data Bendixen created a model depicting the experience of epistemic doubt and its' resolution. All of the subjects reported that exposure to diversity and unrealized expectations led to epistemic doubt. They also all reported similar feelings regarding the experience of doubt, such as fear, insecurity, and confusion. However, the participants diverged in how they chose to resolve these doubts. Most of the participants (N = 10) resolved doubt by taking control of the process. Bendixen noted that the "essence of this resolution process was reflection and through reflection came change" (p. 199). A typical student who took this path is quoted as saying: "I'm a very logical person and the most logical way to overcome some of your doubts is to find arguments for and against each thing and see which is more accurate, more believable, and more truthful" (p.199). This path of resolution usually resulted in the establishment of new beliefs.

The path to resolution taken by the other two students took a very different form because it was characterized by surrender rather than control. In summarizing this path Bendixen stated that it appears that "faith and dependency were the essence of this resolution process" (p. 200). In other words, this path appeared to be affected by religious adherence. This is best illustrated by the following student's remarks:

I can rely fully on and I can just surrender over every area of my life to God and say, 'God I know your there and that's what I needed to know, and you let me know.' Listening to him (God) say, 'This is what you should do,' has just been confirmed so many other times in my life I'm just...not going to listen to myself anymore (p.200).

The path described by this student illustrates the reliance upon and surrender to an omniscient authority for guidance. This path is similar to Buker's (2003) third order epistemological change in that it is characterized by surrender, rather than control; and although one must be careful in making generalizations based upon 2 subjects, this path suggests the possibility that adherence to a religious meaning system is associated with how epistemological transitions may occur.

The role of doubt has not only played an important role in creating models of epistemic change (Bendixen & Rule, 2004), but doubt has also played a prominent role in literature regarding religious change (Hunsberger, Alisat, Prancer, & Pratt, 1996; Hunsberger, Pratt, & Prancer, 2002). Altemeyer and Hunsberger (1997) conducted an in-depth investigation into the religious doubts of what they termed Amazing Apostates and Amazing Believers. Their study began with a sample of 4,000 individuals, all of which were given the Christian Orthodoxy Scale and Religious Emphasis Scale. The Christian Orthodoxy scale was designed to measure an individual's acceptance of basic creeds in both Catholicism and Protestantism (Fullerton & Hunsberger, 1982). These include accepting such notions as the existence of God, the immaculate conception of Jesus, and Jesus died, but came back to life (Fullerton & Hunsberger, 1982). The Religious Emphasis Scale is a 20 item measure used to determine how strongly religious attitudes and practices were emphasized to the respondent as a child.

After examining the data Altemeyer and Hunsberger (1997) defined Amazing Apostates as individuals who scored in the top quartile on the Religious Emphasis Scale and the bottom quartile on the Christian Orthodox Scale. These individuals were therefore raised in families who strongly emphasized Christian doctrines, but for some

reason chose to reject these doctrines. The Amazing Believers were defined as those individuals who scored in the bottom quartile of the Religious Emphasis scale, and the upper quartile of the Christian Orthodoxy scale. In other words, Amazing Believers were raised in non-religious homes and for some reason chose to adopt a religious framework. The selected individuals then went through extensive interviews regarding their religious transformations.

Analysis of the Amazing Apostates' interviews reveals possible epistemological implications associated with their apostasy. The Amazing Apostates often struggled with religious doubt for the same reasons that students are reported to alter their personal epistemology—experiencing diversity (Perry, 1970). The effects of diversity on religious doubts are exemplified when Altemeyer and Hunsberger (1997) reported that for Bill, a 21 year-old Amazing Apostate “meeting a lot of people from other cultures and other religions also led him to wonder why any specific religion was better than another” (p. 43). Bill's confrontation with religious diversity appears to have led to a form of religious relativism, in which the certainty of knowledge within the religious domain is questioned primarily due to the inability to evaluate conflicting religious claims. In other words, Bill has possibly moved from an Absolutist perspective in the religious domain, in which knowledge is presumed to be certain, to a Multiplist perspective, whereby the uncertainty of knowledge is recognized. This recognition of the subjectivity of knowledge is said to be a crucial task in the development of personal epistemology (Kuhn & Weinstock, 2002).

Another example of diversity producing doubt within the religious domain is provided by Ida, a 19 year old whose father was a fundamentalist and her mother was a

Roman Catholic. When explaining the source of her religious doubt, she stated, “I saw two different groups of people who had very strong beliefs and who were just worlds away in where they were looking. And I’ve always had doubts for that reason” (Altemeyer & Hunsberger, 1997 p.69). The experience of religious multiplicity is further illustrated by an Amazing Apostate’s question, “If it boils down to faith, how do you know which religion to put your faith in?” (p. 119). The experience of relativism for this Amazing Apostate has led to a rejection of religious claims to knowledge, rather than an adherence to the multiplicity notion that all opinions are equally valid (Perry, 1970).

Other Amazing Apostates began to ask questions of an epistemic nature by doubting the source of knowledge in the religious domain. Altemeyer and Hunsberger (1997) reported that Harry, a 19 year-old male who was born into a Jehovah Witness household, was raised in an environment in which questioning church authority was harshly condemned. Despite potential condemnation, Harry began questioning these issues at an early age, stating that he asked himself if “the Bible is the word of God? Or is it something just made up to keep people in line?” (p.64). Harry’s questions suggest that he was beginning to have doubts about the source of knowledge in the religious domain by questioning the omniscience of the Bible. Doubting the source of knowledge was also exemplified by Kathy, an 18 year-old Amazing Apostate who was raised in a Catholic family. When asked to give advice to a potential Amazing Apostate, she responded by stating, “You can’t just sit there and accept what they’re saying. You have to read, and see if you agree with what they are saying. You have to have your own mind” (p.78).

Assessing the Amazing Apostates' experiences led Altemeyer and Hunsberger (1997) to believe that these individuals took a cognitive rather than emotional approach to handling religious doubt, proclaiming that they were primarily concerned with "examining the truth of their religion" (p.112). They further speculate that "If you want a 'nuclear' cause of the Amazing Apostasy we uncovered, it originates with this issue: Can you believe in the Bible, and its' story of the existence of God?" (p.111). Their assessment of Amazing Apostasy suggests that epistemology is at the center of this phenomenon. Questioning the truth value of knowledge claims is not only one of the defining attributes of epistemology as a discipline (Solomon, 1986; Chisholm, 1989), but examining the way in which individuals justify knowledge claims is a central component in how epistemic beliefs develop within the individual (Perry, 1970; King & Kitchener, 1994). In addition, many Amazing Apostates reported that their view of knowledge within the religious domain changed from being viewed as an authority driven process to a subjective, self-constructed process. This suggests a shift among the Amazing Apostates' perspective regarding the source of knowledge, a fundamental dimension within models of personal epistemology in education (Schommer, 1994; Hofer and Pintrich, 1997, Hofer, 2001), which appears to equally apply within the religious domain.

Analysis of the Amazing Believers, those who had little religious emphasis from their family and who chose to adopt a religious framework, reveals qualities of a very different epistemic quality than that of Amazing Apostates. The Amazing Believers are contrasted from the Amazing Apostates in that their adoption of a religious framework often occurred for emotional rather than cognitive reasons (Altemeyer & Hunsberger, 1997). Altemeyer & Hunsberger reported that over half of the Amazing Believers had

emotional problems at the time of their conversion, and fear and loneliness played a prominent role in their decision to adopt a religious framework. These findings support earlier work suggesting that personal stress and trauma may be associated with decisions to convert (Ullman, 1982). Altemeyer and Hunsberger (1997) provide the following summary of these two contrasting paths:

The Amazing Apostates often said they wanted to hold onto the beliefs of their youth, but reason gave them no choice. The Amazing Believers, in contrast now feel that those same beliefs are the most profound truths in the universe.

However, they appear to have accepted Christianity not because reason gave them no choice, but because conversion solved big emotional problems (p.212).

Although Amazing Believers path toward conversion appears to lack the epistemic questioning characteristic of Amazing Apostates, their path may still be said to have possible epistemological implications. These implications are best understood when examining ideas utilized by Klaczynski (2000) in understanding scientific reasoning skills. Klaczynski has identified differences between “knowledge driven” and “belief driven” adolescents in their willingness to remove their pre-existing beliefs from scientific reasoning tasks. Klaczynski views knowledge driven adolescents as those making epistemological evaluations and who’s “goal of theory preservation is subordinate to the goal of knowledge acquisition” (p.1350). In other words, these students care more about acquiring knowledge than holding onto pre-existing ideologies. Belief driven adolescents are those who “believe they should ‘stick to their guns’ when their beliefs are threatened, who devalue objectivity and whose self-esteem is tied to the truth of their theories” (p.1350). It appears that Amazing Apostates, for an unknown



reason, were more “knowledge driven,” rather than “belief driven” in their evaluation of religious claims to knowledge. The Amazing Believers on the other hand, due to their reliance upon emotional factors in evaluating religious claims (Altemeyer & Hunsberger, 1997), may have a tendency to be “belief driven,” rather than “knowledge driven,” once these claims are integrated within their intellectual framework.

Not only does the resolution of religious doubt seem to have epistemological implications, but it appears that when religious doubt is of an intellectual rather than emotional quality, the content of the doubt can often be characterized as epistemic in nature. This was further illustrated in Hunsberger & Altemeyer’s (2006) study of active American atheists. Hunsberger and Altemeyer found from a sample of active American atheists and a sample of Manitoba atheists that they had tendencies similar to Amazing Apostates, in that their religious doubts stemmed from intellectual rather than emotional factors (Altemeyer & Hunsberger, 1997). When examining Amazing Atheists, those who had religion highly emphasized throughout childhood and now turned to atheism, Hunsberger and Altemeyer report that “they believed (religious claims) until a question or doubt arose and when the question couldn’t be answered they stopped in order to maintain integrity” (p. 55). It was also found that some types of doubts were more essential to atheist skepticism than other types of doubts. For example, death of a loved one, religious teachings about sex, and the way religious people kept from enjoying themselves in sensible ways produced little doubt among the atheist sample; whereas the failure to demonstrate god’s existence, evolution v. creation, the omniscience of the Bible, irrational teachings, knowledge of an afterlife, and the perception that faith made people “blind,” were all “central” doubts among atheists (p.39).

Questioning the existence of God, the existence of an afterlife, and the omniscience of the Bible, suggest that these atheists doubted the source and certainty of knowledge in ill-structured problems related to the religious domain. Although the way in which religious doubts are resolved can be predicted from whether individuals pursue “belief confirming” sources or “belief-threatening” sources of information (Hunsberger, Pratt, & Prancer, 2002), individuals who are more “knowledge driven,” rather than “belief-driven” (Klaczynski, 2000) may hold different epistemic requirements for evaluating knowledge claims and therefore tend to be satisfied with particular resolutions to these doubts and not others. For example, an individual who questions the existence of God and who attempts to resolve this doubt by speaking to a minister is more likely uphold religious beliefs than a counterpart who attempts to resolve the same doubt by reading a book on atheism. However, an individual who is “knowledge-driven,” and speaks to a minister in order to resolve religious doubt, is more likely to uphold different epistemological standards of evaluation than a “belief-driven” individual when deciding whether or not to accept the minister’s claim to knowledge. In other words, when two people pursue the same path to resolve religious doubt, their epistemological standards of evaluation are likely to predict if the resolution is satisfactory; thereby either leading the person or not leading the person to pursue additional sources of information.

It is in this way that personal epistemology is potentially associated with various religious meaning systems. Hofer and Pintrich (1997) identified simple knowledge, certain knowledge, source of knowledge, and the justification of knowledge claims as common themes in models of personal epistemology. These epistemic dimensions can be used to not only categorize differences in religious meaning systems, but may also be

used in order to predict the likelihood of an individual adopting a religious framework. For example, an individual who believes that knowledge within the religious domain is simple and certain would have tendencies to view religious knowledge as not only absolute, but also as discrete facts that can easily be ascertained. These epistemic beliefs would be very different from an individual who believes religious knowledge to be uncertain and complex; and these distinctions may produce very different behavioral outcomes. It would also be possible to examine individual differences regarding their beliefs about the source of religious knowledge. Does religious knowledge derive from an all-knowing authority, or is religious knowledge viewed as culturally and individually constructed? The standards an individual employs to evaluate religious claims to knowledge could also be examined by dissecting how an individual justifies such claims. It is possible that different religious orientations have different epistemologies, which then guide those orientations. For example, do fundamentalists have similar epistemologies as non-fundamentalists, or are there distinct differences in epistemologies? If these differences exist, what are the implications of these differences? Is it possible that personal epistemology explains why some religious orientations are associated with authoritarianism and not others?

#### Fundamentalist Epistemology and Authoritarianism

The purpose of the following section is to dissect the beliefs and cognitive tendencies of fundamentalism through an epistemological framework. This examination will occur on both a tautological and empirical level of analysis. Therefore, the inspection will not only dissect the definitional and theoretical conceptualizations of fundamentalism and how these conceptualizations potentially reveal aspects of

fundamentalist epistemology, but this analysis will also investigate the implications of evidence that has accrued which has provided insight into aspects of fundamentalist cognition, and examine how these tendencies reveal epistemological implications. Furthermore, explanations of the relationship between fundamentalism and authoritarianism will be examined; and it will be suggested that these explanations are better understood when examined from an epistemological framework.

Altemeyer and Hunsberger (2004) have provided the following conceptualization of religious fundamentalists' beliefs:

the belief that there is one set of religious teachings that clearly contains the fundamental, basic, intrinsic, essential, inerrant truth about humanity and deity: that this essential truth is fundamentally opposed by evil which must be vigorously fought: that this truth must be followed today according to the fundamental unchangeable practices of the past; and that those who believe and follow these fundamental teachings have a special relationship with the deity. (p.118).

This conceptualization of fundamentalism was not only designed to understand an individual's attitude about their religious beliefs (Altemeyer, 2003), but is also designed to be inclusive of attitudes between numerous religions. In examining these attitudes about their religious beliefs, it is possible to deconstruct and identify some components of fundamentalist epistemology. The conceptualization provided by Altemeyer and Hunsberger (2004) define fundamentalists as believing that there is one set of true religious teachings about both humanity and God. In other words, this attitude suggests that fundamentalists tend to believe that knowledge within the religious domain is

absolutely right or wrong. Absolutism, according to Kuhn (1999), also implies a tendency to believe that assertions are facts which can definitely be ascertained about reality. It may also be presumed from the attitudes characteristic of fundamentalists that there would be a tendency to believe that knowledge is simple. Fundamentalists believe that their religious teaching “clearly contains” religious truth. In other words, this conceptualization of fundamentalism reveals an epistemic belief system in which knowledge is not only absolute, but clear and simple.

A theoretical framework has also been proposed by Hood, Hill, and Williamson (2005) to understand religious fundamentalism, which also suggests characteristics of fundamentalist epistemology. Hood et al. believe that fundamentalism is best understood as a broad meaning system, which stems from the reverence of and adherence to a sacred text. In other words, according to these authors fundamentalism results from establishing an interpretative worldview that completely relies upon an unalterable and infallible book, such as the Bible; which then influences how other life events are constructed. In further elucidating this contention, the authors state that “what distinguishes fundamentalism from other religious profiles is its particular approach toward understanding religion, which elevates the sacred text to a position of *supreme* authority and subordinates all other potential sources of knowledge and meaning” (p. 13). This implies that the primary source of knowledge within the religious domain for fundamentalists is an all-knowing authority figure, which is in this case a sacred text. The authors also allude to how knowledge is justified within fundamentalism, by stating that fundamentalists “will use their sacred text as the framework and justification for all thought and action...” (p. 25). They further explain the logic employed within

fundamentalist justifications of knowledge when explaining, “The reason for faith is that it is instructed by the text, and the reason for faith in the text is that it is the Divine Being’s channel of direct communication for how people are to live their lives” (p. 39). In other words, the sacred text is not only viewed as omniscient, but it provides a means of justifying other claims to knowledge. This is further illustrated by the authors when stating “fundamentalist religion is unique in its insistence that all truth claims must be subjected to the sacred text as the single, final arbiter” (p. 32).

It is now possible to paint a picture of fundamentalist epistemology by examining the definitional conceptualizations and theoretical explanations of fundamentalism. This picture suggests that the epistemology employed within the fundamentalist meaning system is that religious knowledge is both simple and certain; and ultimately derives from an omniscient authority. Differences in fundamentalist and non-fundamentalist epistemological beliefs also appears to be apparent when examining the content of religious doubt reported between these groups, and the complexity in which religious issues are analyzed. Hunsberger, Alisat, Prancer, & Pratt (1996) have found differences between high and low fundamentalists in both the content of religious doubt and their complexity of thinking. Hunsberger et al. examined complexity of thinking by identifying the extent to which high and low fundamentalists differentiate and integrate concepts that relate to religion. They found that high fundamentalist religious doubt tended to revolve around concerns with unrealized “religious ideals,” such as “the church not living up to God’s true purpose” or “concern that religion has been associated with negative things” (p.209). Low fundamentalists by contrast had tendencies to doubt the “underpinnings” of religion, such as such as the absence of evidence for religious claims

to knowledge (p.209). Furthermore, Hunsberger et al. found that high fundamentalists demonstrated less integrative complexity when addressing existential issues than low fundamentalists. This finding supported previous research, which consistently demonstrates significant negative relationships between levels of orthodoxy and complexity of thought about religious or existential issues (Prancer, Jackson, Hunsberger, Pratt, & Lea, 1995; Hunsberger, Pratt, & Prancer, 1994; Batson & Raynor-Prince, 1983). These findings suggests that many fundamentalists when experiencing doubt are not posing questions of an epistemic quality which can be seen in low fundamentalists' doubts about religion, which suggests that different epistemological frameworks may be operating between these two groups.

Exploring the epistemological framework employed by high fundamentalists and low fundamentalists may also provide insight into fundamentalisms relationship with authoritarianism. As previously stated, fundamentalism and authoritarianism has been consistently reported as having a strong positive correlation (Altemeyer & Hunsberger, 2004, 1992; Laythe, Finkle, & Kirkpatrick, 2001; Hunsberger, Owusu, & Duck, 1999; Hunsberger, Alisat, Prancer, Pratt, 1996; and Wylie & Forest, 1992), but before exploring the nature of this relationship, it will first be necessary to take a closer look at authoritarianism. Authoritarianism is typically measured with the Right Wing Authoritarianism Scale, and has been operationally defined as the co-varied effect of three attitudinal clusters, labeled authoritarian aggression, authoritarian submission, and conventionalism. Altemeyer (1981) defined these clusters as follows:

1. Authoritarian submission—a high degree of submission to the authorities who are perceived to be established and legitimate in the society in which one lives;
2. Authoritarian aggression—a general aggressiveness, directed against various persons, that is perceived to be sanctioned by established authorities; and
3. Conventionalism—a high degree of adherence to the social conventions which are perceived to be endorsed by society and its established authorities (p.148).

Altemeyer (1988) has reported that RWA has been associated with acceptance of government injustices, acceptance of law as a basis of morality, willingness to impose less severe punishments on authorities perceived to be legitimate, a greater inclination to impose electrical shocks to a confederate in a mock learning experiment, and mild relationships to “right-wing” political parties (p. 9-11). Although Altemeyer’s conceptualization of RWA has been heavily criticized for being another measure of conservatism and a western cultural manifestation (Ray, 1983, 1985, 1990; Eysenck, 1981), much evidence has accumulated which suggests that this construct not only has cross-cultural implications, but is also distinct from conservatism (Altemeyer & Kamenshikov, 1991; Dunbar & Simonova, 2003; Duckitt & Farr, 1994; Duckitt, 1993; Rubenstein, 1996, 1995; Hunsberger, Owusu, & Duck, 1999; Dunbar, Blanco, Sullaway, & Horcajo, 2004; Crowson, Thoma, & Hestevold, 2005).

Although these issues are interesting and relevant to RWA as a construct, the primary interest in RWA for the present study is focused upon its’ reported relationship to fundamentalism (Altemeyer & Hunsberger, 2004, 1992; Laythe, Finkle, & Kirkpatrick, 2001; Hunsberger, Owusu, & Duck, 1999; Hunsberger, Alisat, Prancer, Pratt, 1996; and



Wylie & Forest, 1992). The correlation between these two constructs is reported as consistently occurring near or above .70 (Altemeyer, 2005). Why does this relationship consistently occur? In order to answer this question, it will first be necessary to examine the items on the RWA scale.

The most recent RWA scale is reported as having 22 items, with only the last 20 items being scored. Each score is rated on a -4 to +4 likert type scale and the responses are then converted to a 9 point rating system, in which -4 = 1 and +4 = 9. Responses which are neutral are scored as a 5. The lowest possible score is 20 and the highest possible score is 180, with the midpoint being 100. Of the 20 scored items, there are some items that refer to religious content, and others which do not. It would be reasonable, as has been suggested by Altemeyer (1996) to suspect that possibly one reason RWA and fundamentalism are strongly correlated is due to the fundamentalists' responses to items with religious content. Altemeyer investigated this issue however, and found that fundamentalists scores strongly correlated with all of the RWA items, not just the ones that had religious content. In other words, fundamentalists displayed tendencies to agree with all of the items. These correlations suggest that the relationship between fundamentalism and RWA is not simply occurring due to the content of the items on the RWA scale.

Altemeyer has contended that "fundamentalism can therefore be usually viewed as a religious manifestation of right-wing authoritarianism" (p. 161). He then provided the following three reasons for this occurrence: some religious denominations emphasize authoritarian views, "authoritarians are attracted to the absolutism of the fundamentalism outlook," and "authoritarians will resonate to the ethnocentrism of the fundamentalist

belief that *their* religion is the true religion...” (p. 161). Other speculations provided by Altemeyer (2005) have also emphasized the implications of fundamentalist teachings in the relationship between RWA and fundamentalism. Altemeyer has reported the following about the socialization experienced by many fundamentalists:

They report being taught that their religion’s rules about morality were absolutely right and not to be questioned, that they had to strictly obey the commandments of an almighty God, and the persons who acted as God’s representatives, such as priests, ministers, pastors, or deacons, had to be obeyed....In short, obey the proper authorities, condemn the evildoers, follow the rules (p.390).

It is possible that RWA are attracted to the ethnocentrism and absolutism characteristic of fundamentalism. However, when one examines the socialization process experienced by fundamentalists, as reported by Altemeyer (2005), one may find that what is actually occurring within this process is the implicit structuring of one’s personal epistemology. Fundamentalist teachings, and the subsequent meaning system created by such teachings, suggests that an epistemology may be structured in which knowledge is absolute, simple, and derived from omniscient authority figures. Furthermore, as suggested by Hood, Hill, and Williamson (2005), once this meaning system is structured, it becomes a foundation by which other forms of knowledge must be justified. It is possible that the epistemological beliefs associated with fundamentalist teachings sufficiently explains the relationship fundamentalism has with authoritarianism. If one develops an epistemological meaning system in which religious knowledge is absolute, and grounded within an omniscient text, and this text is then used as a foundational criteria to evaluate other forms of knowledge, it could become increasingly easy to

submit to particular authorities, enact physical aggression, and uphold conventional values, because the epistemology associated with such a meaning system allows it. For example, if an omniscient sacred text, which provides certain and simple knowledge about ultimate meaning and purpose in life, can be interpreted as sanctioning aggression against homosexuals or women, the ultimate reason for this aggression may not be due so much to the authoritarian tendencies of the individual, as much as it may be attributed to the epistemological framework an individual employs which allows such sanctions and tendencies to be justified, and therefore acted upon. Authoritarian submission, or the tendency for individual's to submit to authorities that are perceived to be legitimate, is a central component to RWA. However, when this submission is coupled with an epistemological framework which views the authority to not only be legitimate, but also omniscient, it is possible these beliefs make submission to these authorities more likely.

### Conclusion

Implied associations between spiritual development and epistemological change have suggested that higher order epistemological change, as interpreted from a Christian perspective, is characterized by a complete act of surrender to the will of God, as one understands or perceives God (Buker, 2003). This act of surrender associated with epistemological change, has been supported by other evidence which suggests that religious adherents may resolve epistemological conflict through faith and surrender (Bendixen, 2002). This implies that adhering to a religious meaning system is possibly associated with how one resolves epistemological conflict. Research investigating the content and resolution of religious doubt (Altemeyer & Hunsberger, 1997; Hunsberger & Altemeyer, 2006; Hunsberger, Alisat, Prancer, & Pratt, 1996) suggests that

epistemological differences may exist between individuals who have adopted a religious framework, and individuals who have chosen not to adopt a religious framework.

Furthermore, an examination of the meaning system said to characterize fundamentalism, and the socialization process said to be reported by many fundamentalists (Altemeyer & Hunsberger, 2004; Hood, Hill, & Williamson, 2005; Altemeyer, 2005) paints a picture of an epistemology that is characterized by believing that knowledge within the religious domain is simple, certain, and derived from an omniscient authority. It has also been suggested that the structure of fundamentalist epistemology may sufficiently explain why fundamentalism is consistently related to authoritarianism (Altemeyer & Hunsberger, 2004, 1992; Laythe, Finkle, & Kirkpatrick, 2001; Hunsberger, Owusu, & Duck, 1999; Hunsberger, Alisat, Prancer, Pratt, 1996; and Wylie & Forest, 1992).



## CHAPTER III

### METHODOLOGY

#### *Participants*

Participants in the present study included 163 undergraduate students at a comprehensive land grant institution within the Midwest with a total enrollment of approximately 26,000 students. All participants were offered extra credit for their participation and were provided alternative sources of extra credit if not wishing to participate. A convenience sample was employed as participants may volunteer via the World Wide Web by utilizing a computer system managed by the Psychology Department in which all researchers with Internal Review Board approval may post studies. Students from several departments are within the participant pool and may register with the system. Once registering students may access the system and view potential studies in which they may participate. The current study required participants to answer questionnaires online; therefore individuals choosing to participate may have accessed the study from any personal computer. Once participants decided to participate in the study they were redirected to a secure website in which they were presented with a consent form and a further description of the study. Once consent was obtained the participants were presented with each questionnaire separately thereby requiring the participant to complete the first questionnaire before being capable of viewing the second. All participants were presented the questionnaires in the same order, with the

Epistemic Belief Inventory presented first, followed by the Right-wing Authoritarianism scale, and finally the Revised Religious Fundamentalism scale.

The age of the participants ranged from 17 to 51, with a mean age of 20.01 years (SD = 3.14). Females were represented more strongly in the sample than males, totaling 62% of the sample. In regards to education level, approximately 44.2% were freshman, 18.4% were sophomores, 20.9% juniors, 16% seniors, and .6% reported that they were in graduate school. The participants reported an average GPA of 3.17 (SD = .682). In regards to religious affiliation a majority of the participants reported that they were Christian, with 76.9% of the respondents indicating a Protestant religious affiliation other than Episcopalian, and 9.9% indicating that they were Catholic or Episcopalian. Approximately 13.2% of the sample indicated that they were either an atheist, agnostic, or were associated with no religious preference.

### *Measures*

The *Epistemic Beliefs Inventory* developed by Schraw, Bendixen, & Dunkle (2002), was created in order to assess multi-dimensional components of students' beliefs about knowledge and learning. It is a 32 item measure with items scored on a 5 point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The scale was originally constructed to examine 5 hypothesized dimensions of epistemological beliefs (Schommer, 1990), including simple knowledge, certain knowledge, innate ability, omniscient authority, and quick learning. Scores are summed for each epistemic dimension. Convergent validity of this scale was established by comparing the psychometric characteristics of the EBI with the Epistemological Questionnaire (EQ) developed by Schommer (1990). The authors conducted an exploratory factor analysis of both the

EBI and EQ, and report that the EBI was the only measure to yield the 5 hypothesized factors, while also explaining a greater proportion of total variance (64% accounted for by the EBI and 39% accounted for by the EQ). The authors report marginal internal consistency for the EBI, with  $\alpha$  ranging from .58 to .68 for each dimension. The EBI has also been shown to explain a greater amount of variance in a reading comprehension test than the EQ. The authors however, reported some difficulty replicating the original factor analysis, but were able to find test-retest correlations for each factor calculated after a one month interval at .66, .81, .66, .64, and .62.

The *Right-wing Authoritarianism Scale* was originally created by Altemeyer (1981) in order to measure the co-varied effects of authoritarian submission, authoritarian aggression, and conventionalism. Altemeyer defines these “attitudinal clusters” as follows:

1. Authoritarian submission—a high degree of submission to the authorities who are perceived to be legitimate in the society in which one lives.
  2. Authoritarian Aggression—a general aggressiveness, directed against various persons, that is perceived to be sanctioned by established authorities.
  3. Conventionalism—a high degree of adherence to the social conventions that are perceived to be endorsed by society and its established authorities
- (Altemeyer, 1996, p.6)

The Right Wing Authoritarian Scale has been revised numerous times since 1981; although the internal consistency of the scale has remained relatively high (ranging from .84 to .95 for North American students, Non-North American Students and non-students in North America and other countries (Altemeyer, 1996, p.18-19). Furthermore,



Altemeyer (1996) reports that the scale has been significantly correlated with an individual's willingness to repeal the bill of rights, ethnocentrism, and hostility towards feminists and homosexuals. Cross cultural research has shown that high right-wing authoritarians demonstrate propensities for having an outgroup bias in not only the US, but also in Russia, and in the Czech Republic (Altemeyer & Kamenshikov, 1991; Dunbar & Simonova, 2003). Validation of the RWA scale has also occurred among samples in South Africa, Israel, and Palestine (Duckitt & Farr, 1994; Duckitt, 1993; Rubenstein, 1996, 1995). Other cross-cultural research has shown RWA to be a significant predictor of sexism in Ghana (Hunsberger, Owusu, & Duck, 1999) and a significant predictor of bias against Gitanos in Spain (Dunbar, Blanco, Sullaway, & Horcajo, 2004). Furthermore, recent research has suggested that although RWA and conservatism are related, RWA is not synonymous with conservatism and should be considered a distinct construct (Crowson, Thoma, & Hestevold, 2005).

Altemeyer (2006) reports the latest version of the scale as having 22 items, with only the last 20 items being scored. Each item is answered on a 9 point Likert scale with items ranging from -4 = very strongly disagree to +4 = very strongly agree. Scores are then converted to a 1-9 system, in which -4 = 1, and +4 = 9. A respondent who answers 0 or neutral to an item receives a 5. Scores are then summed and can range from 20 to 180, with the midpoint being 100.

The *Revised Religious Fundamentalism Scale* (Altemeyer, & Hunsberger, 2004), is a shorter version of the original 20 item Religious Fundamentalism Scale (Altemeyer & Hunsberger, 1992). Religious Fundamentalism is defined as

the belief that there is one set of religious teachings that clearly contains the fundamental, basic, intrinsic, essential, inerrant truth about humanity and deity: that this essential truth is fundamentally opposed by evil which must be vigorously fought: that this truth must be followed today according to the fundamental unchangeable practices of the past; and that those who believe and follow these fundamental teachings have a special relationship with the deity. (p.118).

The scale was not developed in order to capture specific religious beliefs, but was designed to measure what people believed about their religious beliefs. In this way, the scale is theoretically applicable to all religions, which has some empirical validity (Hunsberger, Owusu, & Duck, 1999). The authors report high internal consistency for the original scale ( $\alpha = .91$ ), and it strongly correlates with RWA ( $r = .68$ ). Furthermore, Altemeyer & Hunsberger (2004) report that the 20 item scale correlates strongly with belief in Christian teachings (.66 to .74), that religion brings comfort and joy in one's life (.68), frequency of church attendance (.51 to .67), and religious ethnocentrism (.70 to .82). They revised the 20 item scale due to original scale overemphasizing the "one special group" aspect of religious fundamentalism, while de-emphasizing the belief that their religion contains the only fundamental, intrinsic truth (p.50). The authors report that they sampled over 2,000 psychology students and nearly 1,000 of their parents in order to revise the scale. The 12 item version of the scale reports greater inter-item correlations than the original scale (.47 to .49 for the 12 item version compared to .34 to .38 for the 20 item version), which allowed the shorter scale to yield similar alpha coefficients (.91 to .92 compared to .91 to .93). The 12 item version of the scale also yields comparable if

not higher correlations to other important variables (e.g. the original scale correlates .58 with frequency of church attendance, while the 12 item version correlates .62 with frequency of church attendance.

The Revised Religious Fundamentalism Scale is answered using a 9 point Likert scale with items ranging from -4 = very strongly disagree, to +4 = very strongly agree. Items are then converted to a 1-9 score, in which -4 = 1 and +4 = 9. Neutral items are given a 5. Scores are then summed and can range from 12 to 108.

### *Procedures*

Once volunteers log on to the Sona system they were provided with a brief description of the present study. If they decide to examine the study in further detail they will then be provided with an informed consent document which contains a further description of the study and explains their rights if they choose to participate. Once the subjects decide to participate they will be presented with the Epistemic Beliefs Inventory (Schraw, Bendixen, and Dunkle, 2002) and presented with the following instructions: “In this part, we want you to indicate how strongly you agree or disagree with each of the statements listed below. Please mark the number that best corresponds to the strength of your belief.” The participants were then asked to rate each question using a 5 point Likert Scale ranging from 1 strongly disagree to 5 strongly agree.

After completing the Epistemic Beliefs Inventory the subjects were then presented with the Right Wing Authoritarianism Scale (Altemeyer, 2006). The following instructions were provided to the participants:

This survey is part of an investigation of general public opinion concerning a variety of social issues. You will probably find that you agree with some of the

statements and disagree with others, to varying extents. Please indicate your reaction to each statement.

Subjects were then asked to rate each item on 9 point Likert Scale ranging from -4 very strongly disagree to +4 very strongly agree. Scores for each item were then converted to a 1-9 score ranging from -4 = +1 to + 4 = 9 for all portrait items and reversed scored for all contrait items. After completing the Right Wing Authoritarianism scale the participants were presented with the Revised Religious Fundamentalism Scale (Altemeyer & Hunsberger, 2004). The same instructions and scoring scheme that was used in the Right Wing Authoritarianism will be implemented for the Revised Religious Fundamentalism Scale.



## CHAPTER IV

### FINDINGS

#### *Correlations*

Descriptive statistics for Simple Knowledge (SK), Certain Knowledge (CK), Innate Ability (IA), Omniscient Authority (OA), Quick Learning (QL), Right-wing Authoritarianism (RWA), and Religious Fundamentalism (RF) are reported in Table 1. As indicated by Table 2, the Pearson zero-order correlations among these variables tended to reach statistical significance. A correlation matrix displaying the internal consistency of each measure as indicated by Cronbach's alpha is depicted in Table 2. Examination of Table 2 shows that belief in simple knowledge is significantly related to quick learning ( $r = .166$ ;  $p = .034$ ). Belief in certain knowledge is related to omniscient authority ( $r = .336$ ;  $p < .001$ ), quick learning ( $r = .334$ ;  $p < .001$ ), right-wing authoritarianism ( $r = .604$ ;  $p < .001$ ), and religious fundamentalism ( $r = .542$ ;  $p < .001$ ). Belief in omniscient authority was also significantly related to quick learning ( $r = .868$ ;  $p < .001$ ), right-wing authoritarianism ( $r = .405$ ;  $p < .001$ ), and religious fundamentalism ( $r = .354$ ;  $p < .001$ ). Quick learning was associated with right-wing authoritarianism ( $r = .327$ ;  $p < .001$ ) and religious fundamentalism ( $r = .271$ ;  $p < .001$ ).

Table 1

#### Descriptive Statistics

	Means	Standard Deviations
Simple Knowledge	23.85	3.04

Certain Knowledge	17.57	4.12
Innate Ability	20.95	3.79
Omniscient Authority	16.15	2.74
Quick Learning	15.23	2.53
RWA	90.43	30.84
RF	65.64	23.56

Table 2

Correlation Matrix with Alpha Coefficients

	SK	CK	IA	OA	QL	RWA	RF
SK	.351	.055	.152	.127	.166*	.087	.016
CK	--	.661	-.013	.336**	.334**	.604**	.542**
IA	--	--	.647	-.096	.059	.055	-.127
OA	--	--	--	.515	.868**	.405**	.354**
QL	--	--	--	--	.481	.327**	.271**
RWA	--	--	--	--	--	.941	.807**
RF							.940

	--	--	--	--	--	--	
--	----	----	----	----	----	----	--

\* = significant at .05; \*\* = significant at .01

*Tests of Group Differences*

In order to further evaluate the relationships depicted in Table 2, participants were divided into “high” and “low” groups on the religious fundamentalism scale. High fundamentalists were participants who scored at or above the seventy-fifth percentile on the revised religious fundamentalism scale; and low fundamentalists were defined as individuals scoring at or below the twenty-fifth percentile on the revised religious fundamentalism scale. There were a total of 36 participants classified as low fundamentalists and 38 participants classified as high fundamentalists. The Shapiro-Wilk test of non-normality was employed, which revealed no significant departures from normality among groups’ scores in each epistemic category.

Descriptive statistics depicting means and standard deviations for each group are displayed in Table 3. Five independent sample t-tests were employed in order to examine group differences in simple knowledge, certain knowledge, innate ability, omniscient authority, and quick learning.

Table 3

Descriptive Statistics for High and Low Fundamentalists’ Epistemic Beliefs

	RF_Quartile	N	Mean	Std. Deviation	Std. Error Mean
Simple Knowledge	25th quartile	36	23.5833	3.62038	.60340
	75th quartile	38	23.7368	3.26061	.52894



Certain Knowledge	25th quartile	36	14.2500	3.35836	.55973
	75th quartile	38	20.0263	3.71619	.60285
Innate Ability	25th quartile	36	22.4444	4.46219	.74370
	75th quartile	38	21.4474	3.33448	.54092
Omniscient Authority	25th quartile	36	15.2778	2.70038	.45006
	75th quartile	38	17.7632	2.65528	.43074
Quick Learning	25th quartile	36	14.6667	2.31763	.38627
	75th quartile	38	16.5263	2.83546	.45997

These tests, along with Levene's test for equality of variances, and 95% confidence intervals are displayed in Table 4. As indicated by the table high fundamentalists had significantly higher beliefs in certain knowledge [ $t = 7.002$ , ( $df = 72$ );  $p < .001$ ], omniscient authority [ $t = 3.991$ , ( $df = 72$ );  $p < .001$ ], and quick learning [ $t = 3.079$ , ( $df = 72$ );  $p = .003$ ]. Differences in simple knowledge and innate ability failed to reach levels of significance [ $t = -.192$ , ( $df = 72$ );  $p = .848$ ,  $t = 1.084$ , ( $df = 72$ ),  $p = .278$  respectively].

Table 4

Independent Sample T-tests for High and Low Fundamentalists

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
									-	1.44151
Simple	Equal	.860	.357	-.192	72	.848	-.15351	.80012	-	1.44151

Knowledge	variances								1.74852	
	assumed									
	Equal									
	variances									
	not									
	assumed									
Certain	Equal									
Knowledge	variances	.055	.815	-	72	.000	-5.77632	.82491	-	-
	assumed			7.002					7.42074	4.13190
	Equal									
	variances									
	not									
	assumed									
Innate	Equal									
Ability	variances	5.328	.024	1.093	72	.278	.99708	.91250	-.82196	2.81611
	assumed									
	Equal									
	variances									
	not									
	assumed									
Omniscient	Equal									
Authority	variances	.102	.751	-	72	.000	-2.48538	.62269	-	-
	assumed			3.991					3.72668	1.24408
	Equal									
	variances									
	not									
	assumed									
Quick	Equal									
Learning	variances	2.741	.102	-	72	.003	-1.85965	.60393	-	-
	assumed			3.079					3.06357	-.65573

Equal									
variances			-						
not		3.096	70.514	.003	-1.85965	.60065	3.05745	-	-.66184
assumed									

*Explaining Authoritarianism*

A standard multiple regression was also conducted in order to examine the amount of variation within authoritarianism that simple knowledge, certain knowledge, innate ability, omniscient authority, and quick learning accounted for when examined together. Examination of the predicted values and residual terms, as displayed in Figure 1, suggests that the assumption of linearity was maintained. Figure 2 also illustrates that there doesn't appear to be a relationship between predicted values and residuals.

Figure 1

Scatterplot of Standardized Predicted Values and Actual Values

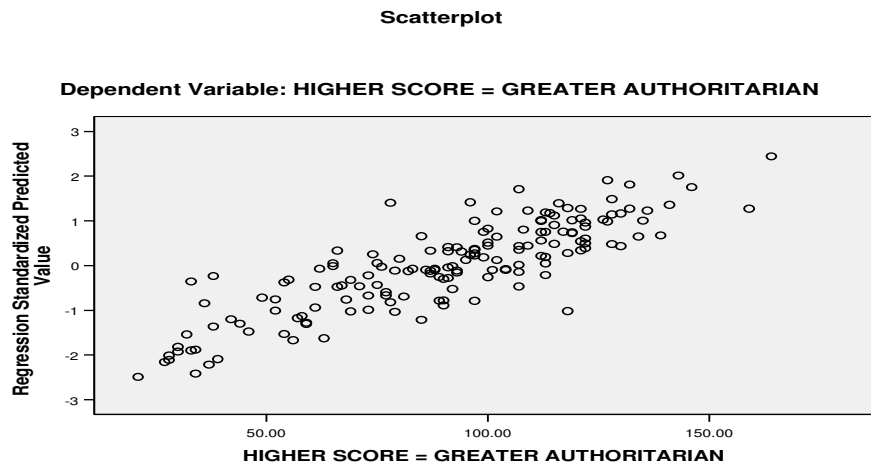
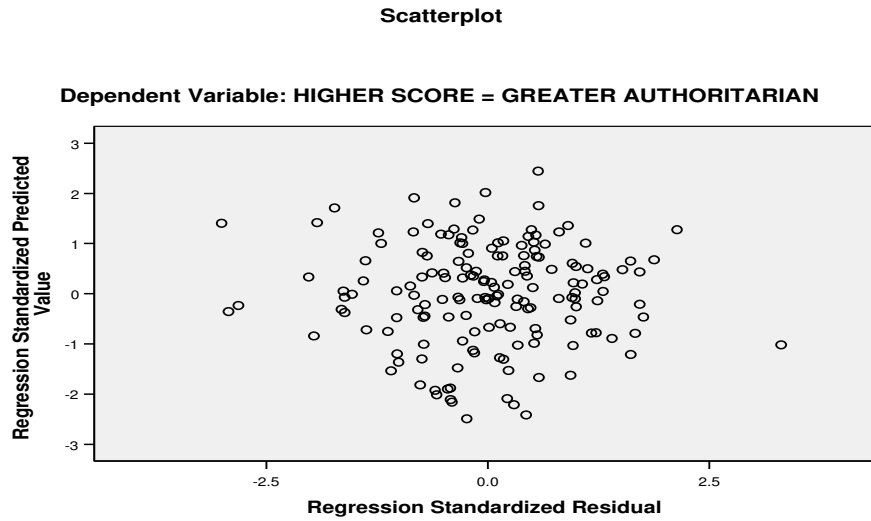


Figure 2

Scatterplot of Standardized Predicted Values and Standardized Residuals



The results of the standard multiple regression indicated that taken together, simple knowledge, certain knowledge, innate ability, omniscient authority, quick learning, and religious fundamentalism accounted for approximately 72.7% of the variance in right-wing authoritarianism [ $F(6, 156) = 69.31; p < .001$ ]. As indicated by Table 5, when each regression coefficient was assessed individually religious fundamentalism, certain knowledge, innate ability, and omniscient authority reached statistical significance (fundamentalism  $t = 12.959; p < .001$ , certain  $t = 4.112; p < .001$ , innate  $t = 3.781; p < .001$ , omniscient  $t = 2.545; p = .012$ ).

Table 5

Regression Coefficients Predicting RWA from RF and Epistemic Beliefs

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-47.422	13.971		-3.394	.001
	Religious Fundamentalism	.877	.068	.670	12.959	.000
	Simple Knowledge	.338	.434	.033	.778	.438

Certain Knowledge	1.575	.383	.211	4.112	.000
Innate Ability	1.370	.362	.168	3.781	.000
Omniscient Authority	2.588	1.017	.230	2.545	.012
Quick Learning	-1.703	1.085	-.140	-1.570	.118

a Dependent Variable: Right-wing Authoritarianism

### *Tests of Mediation*

An examination of the potential mediating effects of epistemic beliefs on the relationship between religious fundamentalism and authoritarianism was evaluated next. A preliminary investigation for mediating effects of epistemic beliefs was conducted by examining the correlation between fundamentalism and authoritarianism after partially out the effects of epistemic beliefs. For simplification purposes A = authoritarianism, R = religious fundamentalism, S = simple knowledge, C = certain knowledge, O = omniscient authority, Q = quick learning, and I = innate ability. The calculation for the partial correlation is as follows:

$$R^2_{A.R(SCOQI)} = \frac{R^2_{A.RSCOQI} - R^2_{A.SCOQI}}{1 - R^2_{A.SCOQI}} = \frac{.727 - .434}{1 - .434} = .5176678$$

Religious fundamentalism when examined alone accounts for approximately 65.1% of the variance in authoritarianism, and when partialling out epistemic beliefs this drops to approximately 51.77% which is a reduction of approximately 13.3% in  $R^2$ .

In order for a variable to be considered a mediating variable, it should meet the following conditions: 1) the independent variable must significantly account for variation in the mediator, 2) the mediator must significantly account for variations in the dependent variable, and 3) when the relationship between the independent variable and dependent variable is significantly reduced when controlling for other paths (Baron & Kenny, 1986). As recommended by Baron and Kenny (1986) these conditions were examined by

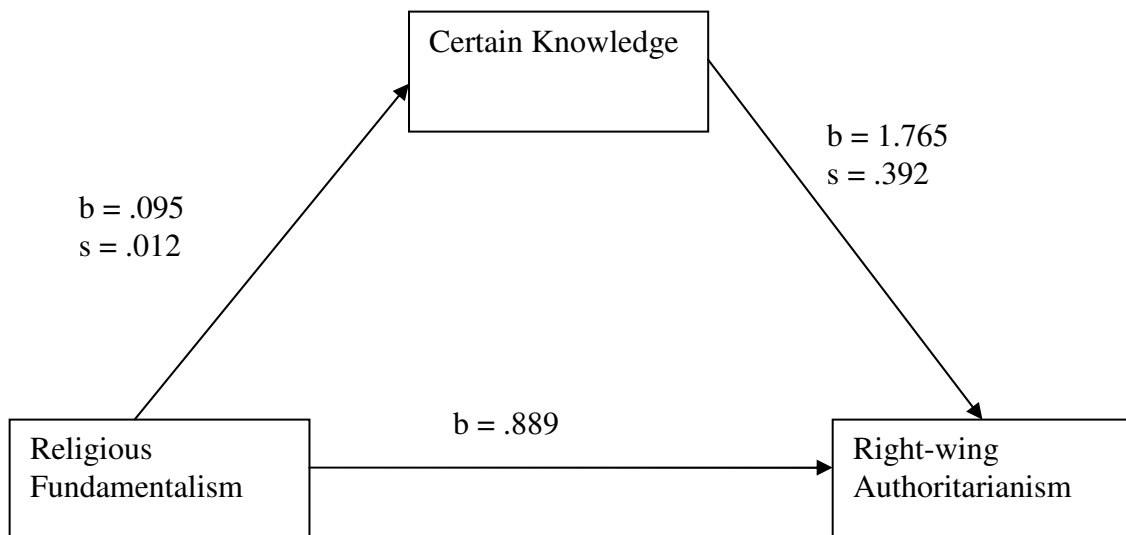
running three separate regression analyses for each possible mediator. Once establishing whether the conditions were met, a Sobel test (Sobel, 1982, 1987) for mediating effects was conducted online (Sobel, 2008).

Simple knowledge (SK) was the first variable considered as a potential mediator between RF and RWA. In order to assess the first necessary condition of mediating variable, a standard multiple regression was conducted in which SK was regressed on RF in order to determine if RF accounted for a significant amount of variance in SK. In this analysis RF accounted for approximately .8% of the variance in SK, which failed to reach levels of significance [ $F(1,161) = 1.242$ ;  $p = .267$ ]. Since SK failed to meet the first condition of mediating variables it was not considered for further analyses.

Certain Knowledge (CK) was the next variable considered as a possible mediator. In assessing the first condition for mediator variables CK was regressed on RF in order to determine if RF significantly accounted for variation in CK. This analysis showed RF accounted for 29.4% of the variance in CK, which reached levels of significance [ $F(1, 161) = 66.947$ ;  $p < .001$ ]. Since this met the first requirement, a second regression analysis was performed assessing whether CK accounted for a significant amount of variation in RWA. In this analysis CK accounted for 36.5% of the variation in RWA, which reached significant levels [ $F(1,161) = 92.432$ ;  $p < .001$ ] and therefore met the second condition. The last regression was conducted in order to determine the final path (b weight) from RF to RWA. The results of these regression analyses can be summarized by Figure 3.

Figure 3

Certain Knowledge as Mediator between RF and RWA



A Sobel test was conducted in order to test the mediating effect of CK on the relationship between RF and RWA. The Sobel test reported a value of 3.91382829 ( $p < .001$ ) thereby suggesting that in considering the model displayed in Figure 1 the indirect effect of RF on RWA is significantly different from 0.

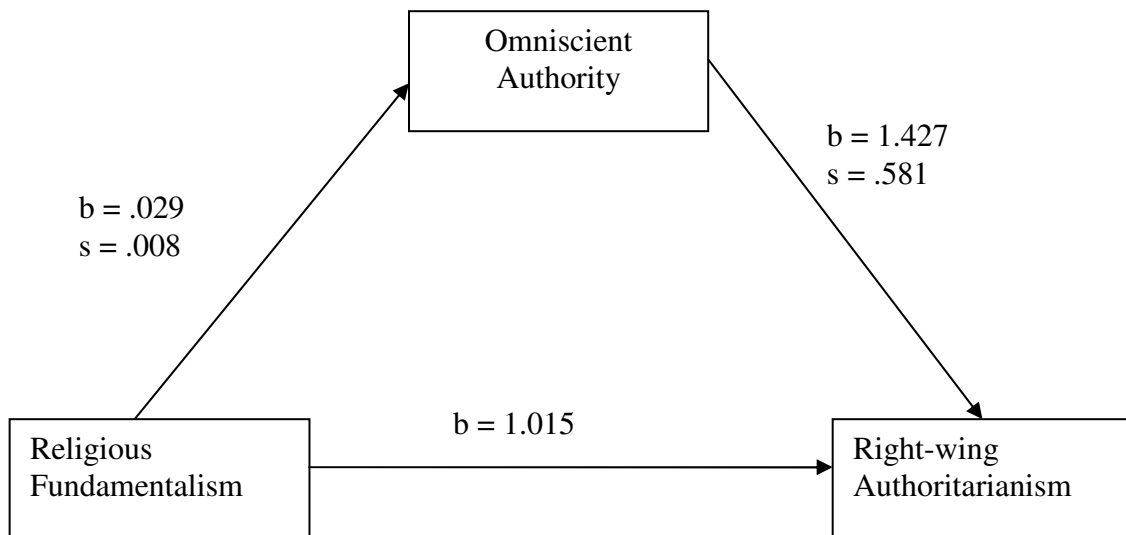
Innate ability (IA) was the next variable investigated as a potential mediator between RF and RWA. In assessing whether RF accounted for a significant amount of variation in IA, IA was regressed on RF. In this analysis RF accounted for 1.6% of the variance in IA, which failed to reach levels of significance [ $F(1, 161) = 2.619$ ;  $p = .108$ ]. Due to this variable failing the first condition, it was not considered for further analyses.

Omniscient authority (OA) was considered next as a possible mediating variable. When regressing OA on RF, RF accounted for 12.6% of the variance in OA, which reached levels of significance [ $F(1,161) = 23.140$ ;  $p < .001$ ] therefore meeting the first condition. A regression analysis was then performed regressing RWA on OA, indicating that OA accounts for 16.4% of the variance in RWA, which also reached levels of

significance [ $F(1,161) = 31.579$ ;  $p < .001$ ]. It was therefore decided to consider this variable for further analyses by conducting a Sobel Test. The regression coefficients and standard errors under consideration are displayed in Figure 4. The Sobel test indicated a test value of 2.37844725 ( $p = 0.01738572$ ), thereby suggesting that the indirect effect of RF on RWA in Figure one is significantly different from 0.

Figure 4

Omniscient Authority as Mediator between RF and RWA



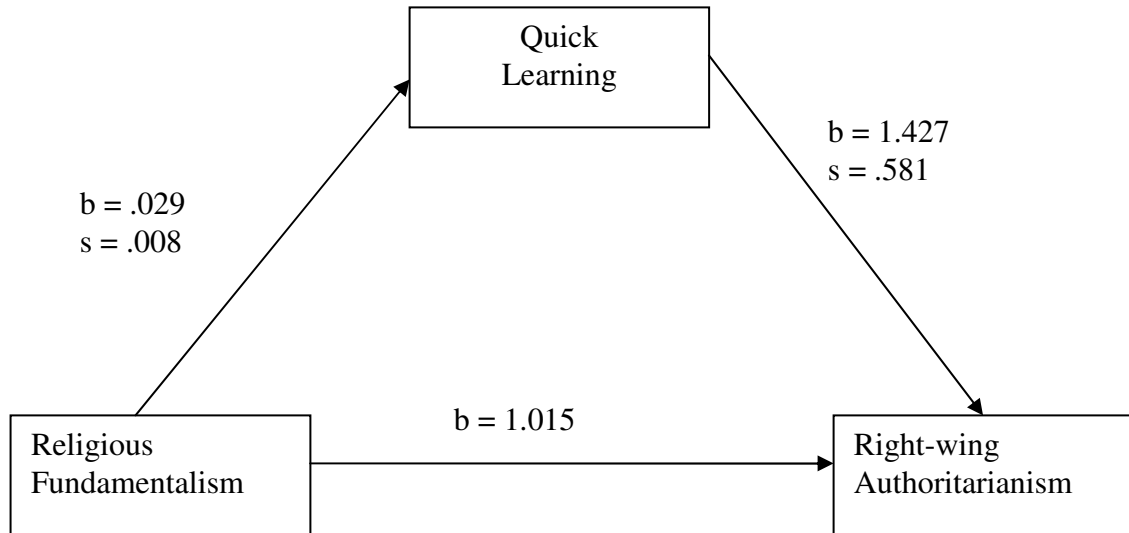
Quick Learning (QL) was the final variable considered as a mediator. In regressing QL on RF, it was determined that RF accounted for 7.4% of the variance in QL, which reached levels of significance [ $F(1,161) = 12.79$ ,  $p < .001$ ]. When regressing RWA on QL, QL accounted for 10.7% of the variance in RWA, which also reached significant levels [ $F(1,161) = 19.317$ ,  $p < .001$ ]. Since QL met 2 of the three conditions, it was therefore decided to conduct a Sobel test. The values under consideration are displayed in Figure 5. The Sobel test indicated a test value of 2.0333838 ( $p = .04201835$ )



thereby suggesting that the indirect effect of RF on RWA is significantly different from 0.

Figure 5

Quick Learning as Mediator between RF and RWA



## CHAPTER V

### CONCLUSION

*Epistemological theories are 'theories in action' in the sense that we are all required to make knowledge judgments in our everyday lives. Whether people understand such judgments to be certain facts, mere opinions, or genuinely considered, though fallible, judgments should make an enormous difference in how people use and make sense of them.*

*Kuhn and Weinstock, 2002, p.134*

#### Discussion

Differences in which individuals come to view the nature of knowledge and knowing may have numerous educational and social implications. In particular, it is believed by this researcher that understanding the personal epistemology of religious adherents may provide an avenue to explain why students' choose to adopt particular views in the classroom, while dogmatically resisting other views, and this information may even provide insight into the processes involved in resolving cognitive conflict associated with the integration of diverse perspectives. For example, Bendixen (2002) has demonstrated that adhering to a religious meaning system may influence the path taken to resolve epistemic doubt, in that this path is characterized by surrender rather than control, which appears to be aligned with later contentions of epistemological development from a Christian perspective (Buker, 2003). Understanding how such doubt is resolved and

why diverse information is either integrated or rejected in one's intellectual framework may be essential for educational practitioners. Furthermore, dissecting how such meaning systems are associated with numerous social attitudes may have implications for understanding not only the formation, but also the maintenance of such attitudes. The present paper is but one step in understanding these potential implications.

### *Fundamentalist Epistemic Beliefs*

The present paper argues that the attitudes inherent in fundamentalist belief systems have numerous epistemological implications, in that the socialization process reported by fundamentalists (Altemeyer, 2005) may be implicitly structuring their personal epistemology. Fundamentalism has been conceptualized as an attitude an individual upholds about their religious beliefs, which primarily consists of believing that their proclamations regarding the sacred are absolute, opposed by forces of evil, that they are accorded a special relationship with a deity, and that their teachings can never be altered (Altemeyer and Hunsberger, 2004). The present paper asserts that these attitudes reveal an Absolutist epistemological perspective, which according Kuhn (1999) essentially proclaims that knowledge is factual, and may definitely be ascertained. Investigations within the present paper support this contention, in that high fundamentalists displayed a tendency to exhibit general beliefs outside of the religious domain that knowledge is certain, derived from omniscient authorities and that learning either occurs quickly or not at all.

Recent theoretical explanations of fundamentalism have stated that this phenomenon largely derives from the construction of a broad meaning system which centers on the adherence to and reverence of a sacred text (Hood, Hill, Williamson,

2005). As evidenced by the present study, the effect of this meaning system seems to be associated with the general epistemic beliefs of participants or in other words adhering to a fundamentalist ideological framework also seems to influence how these individuals view knowledge outside of the religious domain. This tendency for fundamentalist ideological attitudes to potentially affect views the outside the religious domain is consistent with Hood et al. (2005), and has numerous educational implications.

Within American society there have been discussions about the separation of church and state, with particular concerns about evolution and intelligent design being taught in the classroom (Apple, 2008; Boston, 2005; Terry, 2004). Students of a fundamentalist orientation may have particular setbacks in classrooms if teachings are perceived to contradict their religious meaning system. Understanding the fundamentalist tendency to believe that knowledge is both certain and derived from an omniscient authority may help practitioners better understand the challenges these students face within the classroom when presented with what may be perceived to be threatening information. Interestingly, in a situation in which evolution is taught to fundamentalist students, and these students perceive a conflict between these teachings and their religious meaning system, it is likely that these individuals would fail to see the teacher as an omniscient authority and believe that knowledge within the scientific domain is certain due to the potential threat these teachings pose to their current meaning system, and the self encompassed within it. Forms of motivated skepticism are discussed within social cognition literature whereby individuals display skeptical perspectives when receiving information that is potentially damaging to the self (Moskowitz, 2005); however, no known attention has been paid to the form of motivated skepticism displayed

by religious fundamentalists in the classroom when confronted with information perceived to be damaging to their meaning system, or how their personal epistemology may be related to such perspectives. These issues may be questions for future research.

*Fundamentalists' Epistemic Beliefs and Authoritarianism*

RF and RWA are shown to consistently have a strong positive relationship (Altemeyer & Hunsberger, 2004, 1992; Laythe, Finkle, & Kirkpatrick, 2001; Hunsberger, Owusu, & Duck, 1999; Hunsberger, Alisat, Prancer, Pratt, 1996; and Wylie & Forest, 1992) and the present study replicated these findings. The present study however, found the strength of the relationship between these two constructs to be stronger than that reported in previous research; therefore suggesting that these constructs were relatively strongly connected within the present sample. Speculation regarding the reason these two constructs are strongly associated has focused upon the socialization reported by many fundamentalists, primarily arguing that the beliefs associated with this ideological framework are conducive to the manifestation of authoritarian attitudes, and that authoritarians find the ethnocentric qualities of fundamentalist ideology attractive (Altemeyer, 2005).

The present paper however, has argued that the socialization process experienced by many fundamentalists may implicitly structure an individuals' personal epistemology, which in turn mediates the effect RF has on RWA. Partial support for this contention is provided by the current study. The current study found that the indirect effect from religious fundamentalism through quick learning, omniscient authority, and certain knowledge to right-wing authoritarianism were significantly different from zero when examined individually. This evidence demonstrates that religious fundamentalism in its

effect upon authoritarianism does seem to travel through these epistemic beliefs among this sample. The primary challenge with establishing these epistemic beliefs as “true” mediators (Baron & Kenny, 1986) was the inability to reduce the effect of religious fundamentalism on right-wing authoritarianism below significant levels when taking these epistemic beliefs into account. It may therefore be concluded that although these epistemic beliefs may account for part of this relationship, future research is necessary in order to provide greater insight into these two constructs.

### *Limitations and Implications for Future Research*

#### *Measurement Issues*

Within the realm of personal epistemology literature there has been much debate regarding the domain specificity of epistemic beliefs (Muis, Bendixen, and Haerle, 2006; Alexander, 2006; Pintrich, 2002; Hofer, 2006), or in other words are epistemic beliefs best characterized as specific to particular domains of knowledge, such as mathematics or can these beliefs be characterized as general in nature (e.g. without reference to particular domains). Furthermore, key researchers within this field have largely used qualitative techniques for assessing an individual’s personal epistemology, and the attempts to employ quantitative techniques in assessing this construct have been wrought with numerous challenges, with particular challenges in the assessment of “general” epistemic beliefs (Hofer and Pintrich, 1997). For example, Schommer’s (1990) epistemological questionnaire, designed to assess general beliefs about the nature of knowledge and learning, has had difficulties replicating factor structures across independent samples, and reports marginal internal consistency across items (Wood and Kardash, 2002; Jehng, Johnson, & Anderson, 1993). Although the EBI was constructed in an effort to correct

these issues (Schraw et al., 2002), results from the present study failed to replicate the alpha coefficients reported by these authors.

It is possible that the psychometric issues associated with these instruments are due to the difficulty associated with measuring personal epistemology without reference to a content domain. For example, within the EBI the statements, “It bothers me when instructors don’t tell students answers to complicated problems,” and “To many theories just complicate things,” are designed to assess the general belief that knowledge is simple, yet they are likely to evoke very different frames of reference within the participants’ mind. The former statement may evoke thoughts regarding an educational context when responding to the item, while the latter statement vaguely references “theories” thereby leaving the individual to impose a unique mental construction upon the item. These issues may account for the poor internal consistency among items, and difficulty replicating factor structures.

#### *Causality and Alternative Models*

Three conditions must be met before causality can be established: 1) the cause and effect are related, 2) cause precedes effect, and 3) other competing explanations are ruled out (Bollen, 1989; Kessler & Greenberg, 1981). In deconstructing the relationship between religious fundamentalism and right-wing authoritarianism no difficulty was presented in meeting the first condition. However, in constructing the path diagrams for this paper, it was assumed that religious fundamentalism preceded right-wing authoritarianism in time, and therefore the diagrams assumed that the former variable affected the latter variable. It has been suggested by Altemeyer (1988) that it is possible that each construct reciprocally reinforces the other. In order to test this hypothesis a

non-recursive path model depicting this reciprocal relationship should be tested. Another alternative model would depict right-wing authoritarianism as affecting religious fundamentalism. Although it may be that authoritarians are attracted to the ethnocentrism inherent in fundamentalist ideology (Altemeyer, 2005), it is believed by this researcher that fundamentalism is more foundational in that it is more likely that fundamentalist ideology supports authoritarian tendencies rather than authoritarian attitudes infiltrating fundamentalist ideology. However, there is another possibility which may account for the relationship between authoritarianism and fundamentalism.

There are numerous “hot button” issues for religious fundamentalists that are political in nature. According to Spilka et, al. (2003) these issues include “separation of church and state, prayer in schools, abortion, evolution versus creationism, ‘big government’ immorality, gay rights, gays in the military, and related topics” (p.199). When examining the RWA scale (Altemeyer, 2006), 9 of the 20 items refer to “hot button” issues for fundamentalists, and the presence of these items may be artificially inflating the relationship between these two constructs. For example, “Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly” and “Gays and lesbians are just as healthy and moral as anybody else” are likely to fail to discriminate between fundamentalists and fundamentalists with authoritarian tendencies.

### *Conclusion*

Despite the limitations presented above, the current study is the first to deconstruct the relationship between religious fundamentalism and right-wing authoritarianism by investigating the influence of epistemic beliefs upon these constructs. Evidence was



provided which suggests that high fundamentalists have a tendency to believe that knowledge is certain, derived from an omniscient authority, and that learning occurs quickly or not at all. This evidence suggests that there are not only differences in personal epistemology among high and low fundamentalists, but epistemic beliefs appear to matter when examining the maintenance of particular social attitudes, such as authoritarian tendencies. The implications of the above findings may help educational practitioners better understand why students' choose to adopt particular views in the classroom, while dogmatically resisting other views, and this information may even provide insight into the processes involved in resolving cognitive conflict associated with the integration of diverse perspectives. Furthermore, understanding how an individual conceptualizes the nature of knowledge and knowing may also provide greater insight in the maintenance of social attitudes such as right-wing authoritarianism.

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## APPENDIX A

### Epistemic Beliefs Inventory—(Schraw, Bendixen, & Dunkle, 2002)

1. It bothers me when instructors don't tell students the answers to complicated problems.
2. Truth means different things to different people.
3. Students who learn things quickly are the most successful.
4. People should always obey the law.
5. Some people will never be smart no matter how hard they work.
6. Absolute moral truth does not exist.
7. Parents should teach their children all there is to know about life.
8. Really smart students don't have to work as hard to do well in school.
9. If a person tries too hard to understand a problem, they will most likely end up being confused.
10. Too many theories just complicate things.
11. The best ideas are often the most simple.
12. People can't do too much about how smart they are.
13. Instructors should focus on facts instead of theories.
14. I like teachers who present several competing theories and let their students decide which is best.
15. How well you do in school depends on how smart you are.
16. If you don't learn something quickly, you won't ever learn it.
17. Some people just have a knack for learning and others don't.
18. Things are simpler than most professors would have you believe.
19. If two people are arguing about something, at least one of them must be wrong.
20. Children should be allowed to question their parents' authority.
21. If you haven't understood a chapter the first time through, going back over it won't help.
22. Science is easy to understand because it contains so many facts.
23. The moral rules I live by apply to everyone.
24. The more you know about a topic, the more there is to know.
25. What is true today will be true tomorrow.
26. Smart people are born that way.
27. When someone in authority tells me what to do, I usually do it.
28. People who question authority are trouble makers.
29. Working on a problem with no quick solution is a waste of time.
30. You can study something for years and still not really understand it.
31. Sometimes there are no right answers to life's big problems.
32. Some people are born with special gifts and talents.

## APPENDIX B

### Right-Wing Authoritarianism Scale—(Altemeyer, 2006)

1. The established authorities generally turn out to be right about things, while the radicals and protestors are usually just “loud mouths” showing off their ignorance.
2. Women should have to promise to obey their husbands when they get married.
3. Our country desperately needs a mighty leader who will do what has to be done to destroy the radical new ways and sinfulness that are ruining us.
4. Gays and lesbians are just as healthy and moral as anybody else.
5. It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society who are trying to create doubt in peoples’ minds.
6. Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.
7. The only way our country can get through the crisis ahead is to get back to our traditional values, put some tough leaders in power, and silence the troublemakers spreading bad ideas.
8. There is absolutely nothing wrong with nudist camps.
9. Our country needs free thinkers who have the courage to defy traditional ways, even if this upsets many people.
10. Our country will be destroyed someday if we don’t smash the perversions eating away at our moral fiber and traditional beliefs.
11. Everyone should have their own lifestyle, religious beliefs, and sexual preferences, even if it makes them different from everyone else.
12. The “old-fashioned ways” and “old-fashioned values” still show the best way to live.
13. You have to admire those who challenged the law and the majority’s view by protesting for women’s abortion rights, for animal rights, or to abolish school prayer.
14. What our country really needs is a strong, determined leader who will crush evil and take us back to our true path.
15. Some of the best people in our country are those who are challenging our government, criticizing religion, and ignoring the “normal way in which things are suppose to be done.”
16. God’s laws about abortion, pornography, and marriage must be strictly followed before it is too late, and those who break them must be strongly punished.
17. There are many radical, immoral people in our country today who are trying to ruin it for their own godless purposes, whom the authorities should put out of action.
18. A “women’s place” should be wherever she wants it to be. The days when women are submissive to their husbands and social conventions belong strictly in the past.
19. Our country will be great if we honor the ways of our forefathers, do what the authorities tell us to do, and get rid of the “rotten apples” who are ruining everything.
20. There is no “ONE right way” to live life; everybody has to create their own way.
21. Homosexuals and feminists should be praised for being brave enough to defy “traditional family values”.

22. This country would work a lot better if certain groups of trouble makers would just shut up and accept their traditional place in society.

## APPENDIX C

### Revised Religious Fundamentalism Scale—(Altemeyer, & Hunsberger, 2004)

1. God has given humanity, a complete unyielding guide to happiness and salvation, which must be totally followed.
2. No single book of religious teachings contains all the intrinsic, fundamental truths about life.
3. The basic cause of evil in this world is Satan, who is still constantly and ferociously fighting against God.
4. It is more important to be a good person than to believe in God and the right religion.
5. There is a particular set of religious teachings in this world that are so true, you can't go any "deeper" because they are the basic, bedrock message God has given humanity.
6. When you get right down to it, there are basically two kinds of people in the world: the righteous who will be rewarded by God; and the rest who will not.
7. Scriptures may contain general truths, but they should NOT be considered completely, literally true from beginning to end.
8. To lead the best, most meaningful life, one must belong to the one, fundamentally true religion.
9. "Satan" is just the name people give to their own bad impulses. There is really *no such thing* as a diabolical "Prince of Darkness" who tempts us.
10. Whenever science and sacred scripture conflict, *science* is probably right.
11. The fundamentals of God's religion should never be tampered with, or compromised with others' beliefs.
12. *All* of the religions in the world have flaws and wrong teachings. There is *no* perfectly true and right religion.

APPENDIX D

Gender: Male \_\_\_\_\_ Female \_\_\_\_\_ Age: \_\_\_\_\_

Academic Major: \_\_\_\_\_

Current Educational Level: \_\_\_\_\_ Freshman  
\_\_\_\_\_ Sophomore  
\_\_\_\_\_ Junior  
\_\_\_\_\_ Senior  
\_\_\_\_\_ Graduate

Current GPA: \_\_\_\_\_

What is your religious affiliation? If you have no religious affiliation and are an atheist or agnostic please write this in the box. If you consider yourself to be religious, but are not associated with a particular religious institution, please indicate which religion you adhere to: \_\_\_\_\_

On average, how many hours per week do you attend religious services? \_\_\_\_\_

On average, how many hours per week do you spend in prayer or meditation? \_\_\_\_\_



## VITA

John David Hathcoat

Candidate for the Degree of

Master of Science

Thesis: RELIGIOUS FUNDAMENTALISTS' EPISTEMIC BELIEFS AND  
RELATIONSHIP TO RIGHT-WING AUTHORITARIANISM

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Personal Data: Upon receiving my M.S. degree I plan on obtaining my Ph.D. in Educational Psychology in order to pursue an academic career. My current interests include personal epistemology, religiosity, learning, moral development, and the philosophy of science.

Education:

Completed the Requirements for Bachelor of Science in Social and Behavioral Science and Rogers State University in December 2004.

Completed the requirements for the Master of Science in Educational Research and Evaluation at Oklahoma State University, Stillwater, Oklahoma in May 2008.

Experience: I have conducted an internship at the Applied Research Center for Non-profit Organizations at Oklahoma University. This internship consisted of analyzing a government sponsored program which provided case management services to displaced Hurricane Katrina survivors. The study was presented at the American Education Research Association's national conference in 2008, and the paper was recently submitted for publication. I am also currently working as a statistics lab coordinator for Oklahoma University, in which I assist faculty, students, and staff with statistical analyses and research methodology.

Name: John David Hathcoat

Date of Degree: July, 2008

Institution: Oklahoma State University

Location: OKC or Stillwater, Oklahoma

Title of Study: RELIGIOUS FUNDAMENTALISTS' EPISTEMIC BELIEFS AND  
RELATIONSHIP TO RIGHT-WING AUTHORITARIANISM

Pages in Study: 90

Candidate for the Degree of Master of Science

Major Field: Educational Research and Evaluation

Scope and Method of Study:

The purpose of the present study was to inspect differences in epistemic beliefs among high and low religious fundamentalists and to examine the potential mediating effects of epistemic beliefs in the relationship between fundamentalism and right-wing authoritarianism. A convenience sample of 163 undergraduate students were administered the Epistemic Beliefs Inventory, Right-wing Authoritarianism scale, and the Revised Religious Fundamentalism scale via an online survey.

Findings and Conclusions:

Differences in epistemic beliefs among high and low fundamentalists were found in the present study, in that high fundamentalists exhibited a greater tendency than low fundamentalists to believe that knowledge is certain, derived from omniscient authority, and that learning occurs quickly or not at all. It was also found that the indirect path of religious fundamentalism through these variables to right-wing authoritarianism was significantly different from zero, thereby providing partial support for the contention that epistemic beliefs mediate the relationship between fundamentalism and right-wing authoritarianism.

ADVISER'S APPROVAL: Dr. Laura Barnes

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