THE GOOD NEWS:
MEASURING THE IMPACT OF RELIGIOUS WORDS IN MASS MEDIA COMMUNICATION

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by
TIMOTHY JAMES WALKER

Dr. Paul Bolls, Thesis Committee Chair

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The undersigned, appointed by the Dean of the Graduate School,
have examined the thesis entitled

THE GOOD NEWS: MEASURING THE IMPACT OF
RELIGIOUS WORDS IN MASS MEDIA COMMUNICATION

Presented by Timothy J. Walker
A candidate for the degree of Master of Arts,

And hereby certify that, in their opinion, it is worthy of acceptance.

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Professor Paul Bolls

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Professor Debra Mason

_____
Professor Stacey Woelfel

_____
Professor Dan Cohen

DEDICATION

There is nothing in life more important than family:

To Mom and Dad, your love, support and confidence got me through this past year and the twenty four that came before. Thank you for all that you do.

To Lauren, Jessica, Ryan, Bailey and Rabies, this CrayThesis is for you!

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THE GOOD NEWS: MEASURING THE IMPACT OF RELIGIOUS WORDS IN MASS MEDIA COMMUNICATION

Timothy J. Walker

Dr. Paul Bolls, Thesis Supervisor

ABSTRACT

This study explored the relation and use of religious ideas in television news stories. A psychophysiological experiment, based on Lang's (2006) model of limited capacity processing, was conducted using pre-recorded television news stories containing religious cue words. Reactions to these words were measured using secondary task reaction times. The experiment was designed to test whether reaction times were slower in stories containing a religious cue word. Results were also paired with responses from an index of religious belief to test whether religious people processed religious cue words in stories differently than non-religious people. The analysis yielded no significant results. However, this study does help further the basis and need for more insight into the interaction between religion and media

I. INTRODUCTION

Moses stood before God manifested in the burning bush and atop Mount Sinai. The Prophet Muhammad entered a trance-like state where he received the holy text of the Koran. Jesus prayed to God in the Garden of Gethsemane on the night he was taken into custody prior to the Crucifixion. Siddhartha Gautama meditated under the bodhi tree for days before he reached and enlightened state and became the Buddha. Communication with a Divine presence has deep roots in human existence. Human communication and religion are two the oldest subjects of human wonder and discussion. These two subjects intertwine and interact within the context of the mass media. The constant ebb and flow of media messages through human perceptions can shape how we understand the world. This makes it important to understand where religious beliefs fit within the continuum of media message processing.

The motivations of the human spirit are hard to measure in a scientific way that satisfies the minds of the analytical scientific community. Religious communication and science are often seen as at odds, with one perceived as a constant threat to the validity of the other (Stark, 1963). Even Albert Einstein struggled to juxtapose religion and science throughout his life (Einstein, 1995). But this view need not pervade our thinking (Haught, 1995; Sapington, 1991). The following literature and research attempts to show that religion and science (in this case, the study of mass media communication) are intimately tied together though the processes and intricacies of human thought. This task

is important in understanding how the communication process works for so many religious people, and how religious beliefs affect communication.

The complexities of information processing and communication are perhaps second only to that of religious experience and belief within the human mind. Scholars in religious studies are engaged in a constant struggle to understand religious motivation and perceptions. Neuroscience researchers have been able to examine how the brain changes during states of deep prayer and meditation (Reynolds & Tanner, 1995). God-human communication in the form of prayer or mediation can have tangible effects on the brain. This study aims to examine the next step in this process by attempting to determine how those internally held religious beliefs manifest themselves externally when exposed to media messages. This is a field with extensive possibilities.

The study and measurement of religious beliefs has yet to be extended to psychophysiological experimentation within the field of mass media scholarship. This research will use measures of attention, attitude accessibility and message processing, already well established in mass media studies, and meld them with concepts of religiousness.

Religion in the context of American life has long-standing ties to freedom of expression. The United States of America, for all practical purposes, is a religious nation. The degree to which Americans are becoming increasingly secular is a point of contentious debate. The Pew Research Center's U.S. Religious Landscape Survey found that only 16.1% of American's aren't affiliated with a particular religious faith (Pew Research Center 2008). Another popular study of belief, conducted by Baylor University, found similar religious trends in American life (Bader, 2006). Large portions

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of the population have seen *The Passion of the Christ* or read one of the *Left Behind* series of novels. Furthermore, the Pew study found that an additional 5.8% of the 16.1% who have no specific religious affiliation are religious.

People believe news about religion in extremely important (Buddenbaum, 1998). However, Buddenbaum adds that they are highly critical and unsatisfied with the current condition of coverage in the news media. Whether or not media messages are specifically religious, people are conscious of religious messages and religion in the media.

These numbers are important to note if only to shed light on the number of religious people who live and consume media every day. In fact, the realms of religion and media are beginning to come together more fluidly and with greater frequency (Hoover, 2002). Hoover continues to explain that open profession of religion among celebrities and the increasing popularity of religious music and media demonstrate this "blurring" or religion and media.

The necessity and importance of religion as a specific specialized newspaper or media beat is constantly pondered (Hoover, 1998). The often controversial nature of religious issues and the fervor of religious people raise questions of bias and neutrality in the public's mind. This study, however, intends to examine *why* these ideas are so important in the context of media messages. A better understanding of the influence of religious ideas in media messages would help further explain the complexities of news about religion by delving into the perceptions of viewers and readers. This further illustrates the need to understand how religion influences perception and attention to media messages in a world where the two are increasingly melded together.

While overwhelming numbers of people in the United States are religious, there are very few studies examining religious belief and media. Studies involving other, less pervasive, groups are far more popular among communication researchers. Sex, race, ethnicity and economic class, while important avenues for research, dominate the field, despite representing fewer members of the population at large. This study will add credence to the study of religion and communication by showing how religious beliefs can impact the communication process.

The sheer number of religious people in the United States (and throughout the world) raises the need to understand how religiousness affects communication. Religion is a wild card that has the ability to affect an individual's perception of reality. Religious beliefs tend to simplify life by giving order to complicated issues (Duriez, 2003). This suggests that religion serves an important role within the human mind. The pervasive and powerful nature of religion along with the fervor of many people's religious beliefs necessitates the study of religion and communication. Better understanding how religious belief affects the way people receive and understand media messages will fuel a greater understanding of the communication process as a whole because so many people are religious. The basic research question of this study is to explore the impact of religious belief on human action. What are the cognitive processes that spur the impact of religious belief in communication processing?

This research has extremely delicate scholarly implications because religion has never been seriously as a variable with potential for experimentation in the communication sciences. Substantial causal evidence of the impact of religious belief on communication could redefine years of scholarly research in mass communication. The

sincere belief in the existence of a Supreme Being who imparts wisdom and guidance (through prayer, meditation, etc.) in the communication equation would supersede external media influences and persuasive messages.

More practically, an in-depth understanding of God's role in communication could influence the way advertisements and persuasive messages are presented. Advertisers wishing to connect with consumers' spiritual nature could also benefit from understanding more about religious motivations. A greater understanding of the persuasive effect of religious messages could also help journalists interpret the religiously fueled political events (Israel, Iran, Tibet and the 2008 U.S. Presidential election to name a few) that pervade national and international news

A note on choice of terminology in this study

The wide range of religious traditions worldwide makes accurately defining and using terms in the academic study of religious a difficult task. Not all people with religious beliefs believe in a God, Supreme Being, Ultimate Reality or other conceptualization of the divine. Similar terminology does not always carry the same meaning among different groups. Furthermore, not all religious traditions believe in God, or any singular, supreme, Creator deity at all.

This study, being conducted at a large Midwestern University, will inherently deal with a large Christian population. More than 90 percent of religious people in Midwestern states identify themselves as Christian (Mayer, Kosmin & Keysar, 2001). For the purposes of simplicity and clarity, this research will use the term *religious belief* to describe the general idea of faith and adherence to a set of practices and beliefs in a higher power.

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Additionally, this study will use the word *God*, to describe peoples' representation of a higher power. The vast majority of the population, and likely research participants, have a Judeo-Christian background and identify most with the idea of God. The use of the term God, as well as other specific terms used in experimentation is designed to identify most with likely research participants who represent the vast majority of the population. However, this study does acknowledge that there do exist faith traditions and religious beliefs systems, which do not use the term God.

II. LITERATURE REVIEW

The God Problem

Communication scientists spend their careers trying to determine the aspects of human communication. Complicated experiments attempt to pinpoint the root causes, reasons, and implications of media messages. The following literature is based on the cognitive mechanisms dealing with information processing, accessibility and cognitive capacity. These processes, coupled with religious belief, will create more continuity and understanding within the study of communication and religion. But there is a wild card, a concept that has confounded scholars and philosophers for thousands of years.

The God Problem (Schultze, 2005), central in explaining the need for this research, is the idea that a Supreme Being communicates with, and affects, the actions of human beings. This makes establishing a set of communication laws increasingly difficult because it is nearly impossible to measure the will of God. Schultze admitted communication scientists often ignore this problem by pigeon-holing religious people as "pre-modern, irrational, artifacts to study rather than legitimate sites of human-God communication". Schutlze continued to muse about the challenges of interpreting communication from a divine being within current communication models.

"The God Problem" serves as foundational material for this research. Schultze's hypothesis serves to answer why religion is often times pushed to the sidelines of serious scholarly research. The link between religion and communication, while difficult, does exist. The real link does not fall into a mythical or solely spiritual realm, but, as this

research suggests, into the much more tangible field of cognitive processing. In this way, religious belief can begin to be measured and defined on solidly quantitative grounds.

There are varying solutions to the God Problem. The most common approach is to completely ignore the impact of divine agency in communication. Many studies take for granted the importance of race, gender, ethnicity, and class in understanding determining factors and cognitive processes in communication (Darley & Smith, 1995; Jeffres, 2000; Newhagen, 1994) while religious motivations are often left out. Ignoring the impact of human prayer and communication with the divine is not the best approach. The reality or actual existence of God ought not matter when discussing this problem because the reality exists that many people do, in fact, believe they communicate with some Supreme Being. In the minds of many across the world, God does exist, and is a very real aspect in their lives. Therefore, it is both necessary and prudent to analyze the effect supernatural communication may have on the communication process. This research proposes to use religion as the central variable in understanding cognitive possessing of media messages. More specifically, media messages will take the form of television news stories.

Further Defining Religious Belief

If religion does play a role in how messages are perceived and processed it is important to understand exactly what makes someone religious (Torgler, 2006; Duriez, Luyten, Snauwaert & Hutsebaut, 2002). As discussed earlier, the idea of religious practice is termed religious belief. The idea of religious belief must be clearly defined and sufficiently narrowed in order to quantify its measurement and understand its role in the communication process. Many indices of religious belief do exist (Hill & Hood

1999), but most do not sufficiently handle the problem because there are continuing arguments over the definitions of faith and religious belief (Hill, et al., 2000). But religious belief is a difficult concept to parse. The multitude of distinct belief systems, each with specific dogmas and moral codes makes identifying the degree of a person's religious belief a somewhat subjective, yet centrally important, task. This adds additional importance to selecting the right instruments for the purpose of this research.

Religious belief, however, is not a monolithic structure. All people who believe in God do not have the same type of religious belief, nor do they practice their beliefs in the same manner. The Fetzer Institute and the National Institute on Aging (2003) have further suggested the necessity of breaking up religious belief into smaller categories for the purpose of more accurate measurement.

Scholars have long debated just how to break down this idea of religious belief (Berry 2005). Religiosity and spirituality are two of the most often used and frequently debated categorizations of religious belief (Zinnbauer, Pargament, and Scott, 1999; Zinnbauer, et al., 1997).

Religiosity is usually tied to doctrinal or dogmatic beliefs. Those with high religiosity attend regular services at an organized religious institution and participate in ritualized ceremonies associated with their particular religious community. Hill et al. (2000) defined spirituality as a search for an Ultimate Truth or an Ultimate Reality. Religion, as Hill describes it, is the same search for truth but with an added dimension of rituals or beliefs that are used as means and categorized by specific religious groups. The study also posed the idea that religion could also have non-spiritual dimensions such as ethnic identity or belongingness.

However, as Berry (2005) explains, religiosity and spirituality are poorly defined concepts. Two basic subcategories are used in this thesis in order to more specifically address the idea of religious belief. These two terms are organizational religiousness and spiritual experience. These two terms identify a clear and basic difference in personal expression of religious belief.

Organizational religiousness measures religious belief contingent on membership and participation in a religious organization or faith, while spiritual experience measures "the individual's perception of the transcendent (God, the divine) in daily life and the perception of interaction with, or involvement of, the transcendent in life," (Fetzer 2003).

There is no doubt that similarities exist between organizational religiousness and spiritual experience, and the two are certainly not mutually exclusive. However, organizational religiousness need not be a necessary condition for spiritual experience and vice versa.

One could make arguments that both organizational religiousness and spiritual experience independently contain several different sub-categorizations each with differing perceptions. A person's faith could be tied to church and ritual participation, deep personal prayer, or both. Let us consider a hypothetical situation designed to illustrate this problem. Catholic A may define his or her faith through a particular institution or sacramental initiation. Catholic B may define the same religion as a product of intense meditation and spiritual connection. Both are Catholics, and both would yield similar classification in a simple questionnaire probing religious beliefs. Likewise, both A and B, although both identified as Catholic, could hypothetically

display completely different results in an experiment designed to test implications of religion in communication because they have different *types* of religious belief.

The previous example illustrates the difficulty and essential need for an instrument that is sufficiently sensitive to determine differences in both organizational religiousness and spiritual experience among similar people. Barrett and Keil (1996) further explained the perils of measuring religion in a controlled setting. Their research showed participants have "at least two parallel God concepts that are used in different contexts, and these concepts may be fundamentally incompatible." Barrett and Keil were explaining the differences between the anthropomorphic and traditional theological concepts of God. Understanding this difference is central in this research to accurately measure religious belief. An accurate scale with the ability to distinguish among types of faith is of particular usefulness in this study because of the variety of religious beliefs people express.

This thesis uses organizational religiousness and spiritual experience as subcategories of religious belief. Without a clear understanding of the differences, this research could risk lumping together different religious belief patterns and subsequently missing important resulting effects. Part of the research goals for this research in will test whether differences exist in the mediating effects of religious belief as a variable in the context of the two subcategorizations of organizational religiousness and spiritual experience.

The Fetzer Institute and the National Institute on Aging (2003) published a report outlining the need for a measure of religious belief that can parse the subtle differences among different people. The same group then proposed a comprehensive index in 1999

called the Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS) (see Appendix 1). The BMMRS brings together a multitude of different religious concepts (including measurements of organizational religiousness and spiritual experience). The group identified twelve key aspects of faith contained within the index: Daily spiritual experiences, meaning, values, beliefs, forgiveness, private religious practices, religious/spiritual coping, religious support, religious/spiritual history, commitment, organizational religiousness, and religious preference.

These twelve categories give the researcher the ability to key in on specific aspects of a person's faith and belief. The BMMRS allows for the categorization of research participants into a number of classifications that can then be compared to responses from experimental conditions. In this way, results can be calculated for a number of combinations of religious beliefs and attitudes as well as strength of conviction. Specifically, this research will use the measurements of organizational religiousness and spiritual experience as well as overall religious belief. .

Religion and the Communication Process

Next, it is important to specify where religion currently rests in the communication field. Religious information could be housed either in the message itself (the sender) or within the message receiver. This distinction will help to understand exactly where religious messages originate in the communication model and how they are coded and processed.

The Social Cognitive Theory of Mass Communication (Bandura, 2001) asserts that people often use symbols to process and understand experiences that require judgment and action. Bandura proposes these symbols often come in the form of media

messages from a variety of sources. Media then has the ability to stand in for traditional

communication messages normally reserved for social actors such as family, friends, and

other human beings. A media message, like television, that takes the place of a social

actor and has the capacity to tell us what is important within our environment. This idea

serves as a very preliminary entrance for religion into communication. Religion is a

symbol that people use to understand the world around them (Bellah, 1970). Therefore, a

religious symbol can be a powerful force in communication. Religious symbols can

manifest in many forms. Sometimes a sacred text or story is used as a guiding symbol for

understanding difficult concepts. Other times, the religious belief system as a whole is a

symbolic model through which people lead their lives. For the basis of this study,

symbols take the form of specific words in English that are intuitively associated with

core religious attitudes (Appendix 3).

The next logical step is to suggest religious belief can serve as a social group

similar to race, ethnicity, or gender. The favorable response of peripherally processed

messages is enhanced if the message is congruent with the receiver's personal beliefs

(Chang, 2002). Here, the perceptions of the message receiver color how he or she views

the message.

Group membership can serve as an accurate predictor of perceived credibility and

involvement can be operationalized as group membership (Gunther, 1992). Message

recipients who are highly involved are more likely to have strong opinions. This idea

further suggests that perceptions of bias and credibility are more tied to personal beliefs

of the message recipient than material contained within a message. In other words, both

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the message creator and the message receiver can portray bias, conviction and religious belief.

A number of studies have shown that membership in a particular ethic, racial, gender and class group can determine perceptions of credibility of news about a specific group. Religious belief or religious group affiliation can also then serve as a powerful group from which people draw cultural judgments. Beaudoin and Thorson (2005), for example, demonstrated that African-Americans viewed news about other African-Americans as less credible than did people from other racial groups. In turn, whites perceived a significantly different credibility level of news about other whites than did non-whites who viewed the same messages. In this study race was determined to be a better indicator of news credibility than message content. This is an important study to note in the context of this research because it shows how group differences can impact and change perceptions. While Beaudoin and Thorson's research focuses on race of a defining group, this research proposes using faith as the determining characteristic.

These group divisions can take shape in the form of traditionally imposed societal and cultural divisions as well as self-imposed and even arbitrary divisions. A basic interpretation suggests that humans favor people that are categorized as "one of us" rather than "one of them". Group membership can be defined by like tastes that cross cultural lines, such as food, movies and music as well as more traditional divisions. Favorably rated opinions in message content means more cognitive resources and higher accessibility. Understanding how religious beliefs and levels of religious faith serve as cultural divisions and group membership serves to better understand how people interact with media messages.

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This phenomenon is also known as the "Divisive Coverage Effect". Greek and non-Greek (fraternity and sorority members) rated how guilty they felt a Greek student accused of a crime was (Anastasio, Rose & Chapman, 2005). Students watched a video in which Greek students supported the accused student and non-Greek students did not support the student (called divisive coverage). The study found that Greek students felt the fellow Greek student was less guilty than did non-Greek students in the divisive condition. This means Greek students found their fellow Greek student to be less guilty based solely on pan-Hellenistic group membership. Again, the previous study further indicates the importance of group divisions in determining how people view media messages. This research attempts to extend this line of thinking to include religious groups. If people naturally view things through the lens of their group memberships, then religious people ought to be no different. Using religious belief as a guide for a sort of broad group membership, this research plans to show how religious people consume and process media messages.

Hill and Pargament (2003) have championed the need for better and more precise measures of religious belief in health research. These new measures ought to include pertinent psychophysiological measures. Religious beliefs can also affect the way people consume media. Armfield and Holbert (2003) found a significant negative relationship between religious belief and internet use. In other words, the more religious a person is, the less time he or she spends online. The fact that religion was found as a significant predictor, along with more traditional items like age, sex, income and education, further professes religion's power as a persuasive in-group. Al-Menayes (1997) also found a correlation among faith, media exposure and attitudes toward Israel in Kuwait. Highly

religious Muslims were less likely to want normalization of relationships with the predominantly Jewish nation of Israel. In both of these cases faith was correlated with media use. These studies and others (Finn, 1992; Wilkes, Burnett & Howell, 1986) also suggest that faith can be used to predict media behavior in a very real way. Perhaps the God Problem is not as incomprehensible as once thought.

This idea can be extended to the measurement and understanding of religion. Religious groups and affiliations (however arbitrary they may be at times) can serve as in-groups by which people rely for information. The difficulty lies in trying to measure these differences without categorizing people into groups to which they do not belong. This makes creation of an accurate psychophysiological measure for faith a pressing task. The following discussion will explore the basis for experimental research into two models for measuring cognitive processing for religion and media messages.

The general research question of this thesis is to explore the impact of faith on human action. What are the cognitive processes that spur the impact of faith in communication processing? More specifically, this study will explore communication processing in the form of perception of television news stories containing religious cue words. Television news stories are of particular interest because of the power of the visual medium as well as their conduciveness to this type of research method.

Attitude Accessibility

Next, it is important to understand the concept of attitude accessibility. The accessibility of a message is the ease in which details are recalled from memory. Attitude accessibility hinges on four concepts; expectations, elaboration, recency and frequency (Roskos-Ewoldsen, Arpan-Ralstin & St. Pierre, 2002). Expectation refers to a person's

belief that he or she will have to think about or retrieve an idea in the future. Elaboration is the number of connections or "nodes" within the brain with which an idea is associated. Highly accessible ideas are connected to more ideas in the spider-web of the brain's cognitive capacity than ideas that are not highly accessible. Recency is an important part of accessibility because more recent ideas are more easily accessible. Finally, frequency refers to how often an idea is received, processed, stored and accessed in the mind. Ideas with greater relative frequency are more accessible.

Congruent ideas are also highly accessible ideas because they are processed more often, connected to a greater number of other ideas in the brain. Messages with a higher accessibility are also more credible. People with strong pre-existing opinions store those ideas in long-term memory, but they are easily accessed through jogging short-term memory. When exposed to a message, these strong opinions can take the form of counterarguments or messages of approval depending not only on the credibility of the message but also the pre-disposed sentiments of the receiver (Sternthal, Phillips, & Dholakia, 1978). Sternthal, Phillips, and Dholakia contend highly credible sources will prompt a favorable message analysis if it is in agreement with the receiver, while the same message will create counterarguments among receivers with negative feelings about the message. Attitude accessibility is an important concept for this study because of itsability to determine the importance of an issue or word within the mind.

Hill and Bassett (1992) have shown the importance of attitudes in religious belief. Highly religious people are able to more easily access and accurately judge religious messages than less religious people (Blaine & Nguyen, 2002). Religion has also been found to be positively associated with knowledge about news articles dealing with

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religious ideas (Hollander, 2006). This suggests that religious ideas are highly

accessible. Wenger (2003) performed an interesting study in which people were

subliminally exposed to key Christian words (gospel, bible, etc.) and then asked to write

down the most important moments in human history. Strongly and moderately professed

Christians were more likely to write the birth, death or life of Christ if they were first

exposed to the subliminal Christian messages. These examples provide further evidence

of the connection between religious belief and action based on a media message. More

specifically, this study will use attitude accessibility to show how accessible television

news messages, or specific religious words, are for people with different levels of

religious belief.

Hill (1994) creates a powerful link suggesting that attitude accessibility could be a

good measure for automatically activated religious beliefs. Hill asserts reaction time

could be used to measure the importance of beliefs in religious people. Measuring

attitude accessibility would help to better understand the role of religiosity in the

communication process. Attitude accessibility is commonly measured through responses

to attitude objects (Fazio, Powell & Williams, 1989). This research will use religious

words as attitude objects in order to determine whether attitude accessibility mediates the

impact of faith on television news stories.

In order to measure attitude accessibility participants are asked to assign primed

object words into one of two categories (Fazio, Powell & Williams, 2001). The relative

quickness to which a participant categorizes these words, the more congruent the

attitudes are with his or her personal beliefs or opinions (Fazio, Sanbonmatsu, Powell &

Kardes, 1986). This same concept can be extended to the study of religion. Participants

are asked to classify words on a computer in to one of two categories, religious and non-religious. These words would be chosen to be either religious (God, for example) or non-religious (cheese, for example). Highly religious people should be able to classify religious words more quickly because the words are more accessible. This would show that religious beliefs are activated automatically when exposed to communication stimulus.

This thesis proposes the use of a mediation model in order to explain the relationship between religious belief the television news processing. Level (high and low) and type (organizational religiousness and spiritual experience) of religious belief will form the basis of a 2 x 2 model for examining the research question. First, it is important to examine faith as an attitude (Hill 1994, Hill & Bassett 1992). Degree of religious belief can then be shown to act as an influential trait, and for the purposes of this thesis, religious belief will be examined as a psychological trait. Krosnick (1989) has shown that more important ideas are more accessible and create a more concrete relationship between the object and its corresponding memory association. If religious ideas are important to religious people, then those ideas should be more accessible.

The first research question will test whether attitude accessibility of religious belief mediates processing of television news stories. While researchers like Hill (1994) have suggested using attitude accessibility as a measure for levels of religious belief, this research question looks to determine whether that level of belief impacts how people process television news stories containing religious cue words.

RQ1: Does attitude accessibility mediate the impact of religious belief on television news stories?

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The first research question asks whether accessibility of faith-based attitudes mediates how people process media. It will also serve to develop understanding and knowledge of the underlying cognitive processes involved with religious belief in the communication process. RQ1 will lay foundational evidence for the connection between religious belief and the processing of media messages.

The Limited Capacity Model of Mediated Message Processing

According to the Limited Capacity Model of Mediated Message Processing (LC4MP), cognitive capacity is allocated to either encoding, storage or retrieval (Lang, 2000). In other words, humans are limited capacity processors of information. There are only a finite amount of resources available for media message processing. Lang's model asserts the decision to allocate more or less resources to a topic is based on factors like involvement, congruency and group membership. Some things require more mental capacity to process, while others require less and can even be automatic. This research proposes using LC4MP as a foundational theory for measuring the cognitive processing of television news stories and levels of religious belief. Limited capacity processing and resource allocation will be used in order to determine the extent to which religious belief plays a role in how people process television news stories.

Cognitive capacity and resource allocation is measured through the use of Secondary Task Reaction Times (STRT) (Lang & Basil, 1998). According to Lang and Basil, STRTs are measured by asking a participant to perform a secondary task while being subjected to a primary task (in this case a television news story). The secondary task in this research will be an audio tone presented 500 milliseconds after a religious

word (the primary task) in a television news story. The reaction time between the tone and the reaction (i.e., pushing the button) is the STRT. The longer the STRT the more cognitive resources are currently being allocated to the primary task. More specifically, STRTs measure cognitive resources allocated to processing a primary task. In the case of this research, the primary task will be a television news story containing a religious cue word, while the secondary task will be an audio tone placed within 1000 milliseconds of the word. STRTs will be the basic tool for measurement of religious belief for this research methodology.

The concept of LC4MP has not yet been extended to cognitive processing and religious belief. However, there is strong evidence that highly religious people processes religious cues automatically (Hill, 1994). Automatic beliefs are attitudes whose activation does not require dipping into the brain's limited pool of cognitive resources (Shiffrin & Dumais, 1981). Wenger (2004) has also lent credence to the concept of religious belief as an automatically activated concept.

If religious beliefs are automatic for highly religious people then one would expect that those people should pay more attention to religious cues in stories and also have a slower STRT. This also means that the less religious cue words mean to a particular participant, the fewer resources he or she will need to allocate to the primary task of watching television news stories. This should leave more resources available to processing the secondary task (the audio tone).

However, there may also be a difference among people with religious beliefs. This research will aim to delineate such differences (through the BMMRS) between participants who are oriented toward spiritual experience (define religious belief through

prayer and a special connection with God), and those who define religious belief through organizational religiousness (defined by their church attendance and participation in religious ritual).

RQ2: Does organizational religiousness or spiritual experience have a bigger impact on attention to television news stories containing religious cues?

The second research question will determine which of the two types of religious belief has a bigger effect on attention to television news stories. While these differences are broad, this analysis will provide a first step in establishing theoretical differences to better understand the way religious people use their beliefs to process media messages.

Next comes the question of the affect of level of faith on the processing of television news stories.

RQ3: Does the level of religious belief (high or low) impact attention to television news stories that contain religious cues?

RQ3 stems from the previously discussed differences in automatic activation of religious beliefs. The research question will attempt to determine whether people with a high level of religious belief have automatically activated beliefs about ideas or words associated with religion. Such individuals should show greater cognitive resource allocation to the prime task (watching a television news story containing a religious word), resulting in a slower STRT. In contrast, those people who have a low religious belief would not allocate as many resources to processing the same message, leading to a quicker STRT.

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III. METHODOLOGY

This experiment will employ a 2 (religious cue) x 3 (story) x 4 (religious belief) mixed model, fractionated, repeated measures design. Participants will be exposed to three stories with a religious cue and three without a religious cue. The presence or absence of one of six religious cue words will be manipulated within subjects. Their level of religious belief will be categorized into one of four conditions (high organizational religiousness-high spiritual experience, high organizational religiousness-low spiritual experience, low organizational religiousness-low spiritual experience, low organizational religiousness-high spiritual experience) which will be determined through the use of the BMMRS index administered after completion of the experiment.

The purpose of this research is to better understand the underlying cognitive processes of religious belief and how they effect the consumption of news. Numerous studies have shown the importance and depth of interaction of God and other concepts of the Divine within the human mind (Reynolds & Tanner, 1995; Duriez, 2003; Whitehouse, 2002; Boyer 2001). This research proposes to extend this line of study to the understanding of television news stories. The research question seeks to define the role of religious belief in human action and communication. What are the cognitive processes that spur the impact of religious belief in communication processing?

This research uses Attitude Accessibility (Roskos-Ewoldsen, Arpan-Ralstin & St. Pierre, 2002) and the Limited Capacity Model of Mediated Message Processing (LC4MP) (Lang, 2000) as foundational theories for experimentation. These theories explain how messages are processed and stored in memory. The concept of religious

belief acts as an overlying theory that this research aims to mesh together into a more synthesized theory of religion and communication.

Attitude Accessibility can be a tool in determining whether religious beliefs are automatically activated (Hill, 1994). Hill suggests that highly religious people should have highly accessible beliefs about religion. Therefore, measures of attitude accessibility should be able to determine someone's level or extent of religiosity. However, this research will attempt to discern whether attitude accessibility plays a role in the interplay between personal religious faith and media messages.

RQ1: Does attitude accessibility mediate the impact of faith on television news stories?

LC4MP can also be an important method for studying religion because the theory states that people only have a limited amount of capacity for message processing. If as Wenger (2004) suggests, religious beliefs for highly religious people are automatically activated, then there ought to be a difference in levels of processing capacity. The common instrument of measurement in LC4MP is secondary task reaction time (STRT) (Lang & Basil 1998). STRT's measure how many cognitive resources someone is allocating toward a primary task through observation of reaction to a secondary task. In this case, the primary task is listening to a news story embedded with religious words. Shiffrin and Dumais (1981) suggest that religious beliefs are automatically activated, and this do not require any capacity to activate.

There are two major aspects of religious belief that must be understood in order to sufficiently test the second and third research question. The first is type of religious belief. This thesis will use concentrate on organizational religiousness and spiritual

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experience; two major division within the larger concept of religious belief. This research contends that organizational religiousness is associated with orthodoxy, church attendance, and authoritarianism, while spiritual experience refers to personal belief or transcendent relationship with God (Fetzer Institute, 2003). The second research question, then, asks which of these two divisions has a bigger impact on attention to television news stories.

> RQ2: Does organizational religiousness or spiritual experience have a bigger impact on attention to television news stories containing religious cues?

The second aspect of religious belief is level or strength or conviction. This refers to the general level or intensity of belief within an individual. In this case, a person can either have a high level of religious belief or a low level of religious belief.

> RQ3: Does the level of religious belief (high or low) impact attention to television news stories containing religious cues?

In the case of both RQ2 and RQ3, STRTs will be the major instrument of measurement. Differences in both level and type of religious belief should be discernable based on each participant's cognitive resource allocation to the primary task of watching television news stories containing religious cue words.

Experimentation is the best method for this research because it has the ability to precisely calculate the small variations in response times necessary to measure STRT and attitude accessibility. Previous experiments have measured religious belief only through

the use of a paper and pencil index (Faulkner & de Jong, 1966; Gorsuch & McFarland, 1972). This research will help develop other measures of religious belief that could also be useful in subsequent studies.

Conceptualization of the Independent Variable

In order to properly understand the postulated experiment, a sufficient conceptualization of the independent variable, religious belief, is needed. Previous discussion has defined the practicality of dividing religious belief into two dimensions, spiritual experience and organizational religiousness. This creates a 2 x 2 division of the independent variable resulting in four possible conditions: high organizational religiousness, high spiritual experience; high organizational religiousness, low spiritual experience; high spiritual experience, low organizational religiousness; low spiritual experience, low organizational religiousness (see Table 1).

Table 1

High Organizational Religiousness High Spiritual Experience	High Organizational Religiousness Low Spiritual Experience
Low Organizational Religiousness High Spiritual Experience	Low Organizational Religiousness Low Spiritual Experience

The first part of the experiment will test whether attitude accessibility mediates the impact of religious belief in processing television news stories. This experiment follows Hill's (1994) suggestion that attitude accessibility could be used to measure strength of belief through evaluation of an object or word. In other words, the faster someone reacts to a word (in this case, a religious word), the more accessible the associated religious ideas are within the person's mind. The previous discussion established that automatic beliefs are those that already have strong connections in the brain and require little cognitive effort to recall (Shiffrin & Dumais 1981). People with strong religious beliefs should follow this same pattern when exposed to messages that contain familiar cue words.

Participants will then move to the second part of the experiment, designed to test the activation of religious beliefs using the Limited Capacity Model of Motivated Mass Media Processing as a basis (Lang 2004). This model first assumes that people are limited capacity processors and have only a limited amount of ability to perform and process tasks (Kahneman, 1973). The hypotheses in the second part of the experiment will test whether capacity levels vary among people with different levels of religiosity. This will show whether religious people process messages differently based on their level of religious belief.

Index of Religious Beliefs

The basis for this research requires a comprehensive self-reported index of religious belief. Scores for each research participant will be indexed and used to delineate the level (high and low) and type of faith (spiritual experience and organizational religiousness), as well as the specific religious denomination (if

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applicable). These scores and categorizations will then serve as comparison levels for the independent variable in the tests of attitude accessibility and LC4MP. The index of religious beliefs will be administered via the MediaLab computer program following completion of both parts of the experiment.

This study will use the Brief Multidimensional Measure of Religiosity/Spirituality (BMMRS), developed by the Fetzer Institute and the National Institute on Aging Work Group (2003) as an index of religious beliefs (Appendix 1). The BMMRS is the most appropriate measure of religious belief because it has the ability categorize research participants based on twelve dimensions. This is beneficial in determining differences between level (high and low) and type (spiritual and religious) of faith.

The twelve aspects of faith identified in the BMMRS are as follows:

- Daily Spiritual Experiences: This includes questions about a participant's direct connection and spiritual oneness with a Higher Power.

- Meaning: This includes questions concerning whether or not the participant believes the events in his or her life are predestined or planned by a Higher Power.

- Values/Beliefs: These questions probe the participant's notion of social justice and pressure to do the right thing.

- Forgiveness: These questions ask whether the participant has forgiven themselves, others as well as whether a higher power has forgiven *them* for wrongdoings.

- Private Religious Practices: These questions determine how often the participant prays, meditates or consumes religious materials (sacred texts, religious programs, etc.). This section is key in determining the spiritual aspect of faith.

- Religious and Spiritual Coping: These questions discern how often the participants evoke the help of a Higher Power to help with personal situations in their lives.

- Religious Support: This section asks how heavily participants can rely on faith congregations to help them during times of trouble and strife.

- Religious/Spiritual History: These questions deal with personal spiritual revelations that have had an impact in the participants' lives.

- Commitment: This section asks how strongly participants are committed to participating in activities sponsored by their congregation (tithing, service activities, etc).

- Organizational Religiousness: These questions are specifically designed to determine how often participants attend services and other official events. This is critical in gauging the religious aspect of faith.

- Religious Preference: These are two open-ended questions, which ask participants to write their specific faith tradition and protestant denomination (if applicable).

- Overall Self-Ranking: These two questions ask participants to rate how religious and spiritual they believe themselves to be.

Scores from the BMMRS will be index reduced into factors through factor analysis. They will then be used in conjunction with results from the experiment to determine level and types of religiosity.

Independent Variables

Level of Religious Belief

The independent variable for the first part of the experiment is level of religious belief (high or low). Data gathered from the BMMRS religiosity index will be used to group and categorize participants based on their level and type of religious belief as well as their specific religious tradition.

Type of Religious Belief

The independent variable for the second part of the experiment is religious belief (one of high organizational religiousness, high spiritual experience; high organizational religiousness, low spiritual experience; high spiritual experience, low organizational religiousness; low spiritual experience, low organizational religiousness). Participants will complete the BMMRS religiosity index following completion of this experiment. The BMMRS will have the ability to categorize participants based on their level (high or low) and type (organizational religiousness and spiritual experience) of religious belief.

Type of religious belief will be manipulated though the use of news stories. The stories are all "readers", and feature an anchor reading on camera throughout the entire story (no "B-Roll" video is included). Each of the six stories will contain a fictional news event and last approximately twenty seconds (See Appendix 2). Each of the six stories will have a religious condition and a corresponding non-religious condition (six stories, two conditions each, twelve versions in total).

The news stories will not be explicitly religious in nature, but will contain one religious word used only once. This will better mimic actual, secular, television news coverage, rather than using religion news. The stories used in this experiment will be no different from those seen in any local television newscast. An example of a mainstream news story with a religious cue could include a story about a house fire with the line,

"The victim said, "Oh God, I'm glad I got out of the building in time!"" In turn, the same story written for the non-religious condition would be written to say "The victim said, Oh, I'm glad I got out of the building in time!""

The stories will be written and recorded and edited into QuickTime (.mov) format compatible with the experimentation computer program using equipment at KOMU-TV8, an NBC affiliate in Columbia, Missouri owned by the University of Missouri. The station is a fully functional network affiliate that serves as a teaching lab for journalism students from the University of Missouri. One professional anchor will be used to read all twelve story conditions while situated behind a desk in the KOMU studio. The pace of reading will also be kept constant. All stories will mimic local news events but will be completely fictional and written specifically for this experiment.

Dependant Variables

Attitude Accessibility

The dependent variable for the first part of the experiment will be the time needed, in milliseconds, to categorize a prime word as either religious or non-religious.

According to Hill (1994) Attitude Accessibility is measured through a latency of response measure to an attitude object (Powell & Fazio, 1984; Fazio, Chen, McDonel & Sherman, 1982). Six religious and six non-religious words will be used as attitude objects to test the attitude accessibility of religious ideas (Appendix 3). The words were selected at random. The religious words will be used again within the news stories in the second part of the experiment. Religious words were chosen based on their basic connotation with religious ideas. The non-religious words were chosen at random and

have no connection to any religious ideas. This is a within-subjects design. Each participant will be exposed to each of the twelve prime words.

Secondary Task Reaction Time

The dependant variable for the second part of the experiment is secondary task reaction time (STRT). STRTs are main means for measuring limited capacity processing. The use of STRTs measure how many resources are being allocated at any one point in time toward processing a primary task. (Lang & Basil 1998). In this case the primary task will be watching television news stories, while the secondary task will be an auditory tone placed after a prime (a religious cue word) within the story. If more resources are needed to assess the primary task, then there will be fewer available for the secondary task. In turn, the time it takes for a person to react to a secondary task, indicates more resources are being allocated to the primary task.

Each story will contain two STRT audio tones. The first will occur 1000 milliseconds after the religious cue. The first STRT tone will occur in the same position for each corresponding non-religious story condition. The second tone will be placed at least 10 seconds after the first (within the final 15 seconds of the story) in order to track cognitive resources allocated later in the story.

Participants and Procedure

50 undergraduate students in journalism classes at a Midwest university will be used as research participants in this study. There are no restrictions of participant's religious belief, level of belief, or religious affiliation.

Participants will first be asked categorize twelve (See Appendix 3) words as quickly as possible as either religious or non-religious in nature by using a computer keyboard. Religious words were chosen for their relation to basic concepts in religion, and to Christianity in particular. Non-religious words were chosen at random. Different keys on the keyboard will be labeled "religious" and "non-religious" respectively. Each of the twelve words will be randomly ordered for each participant. The twelve prime words will each appear only once for each participant.

The faster a participant is able to categorize a word as religious, the more accessible their beliefs are (indicating a higher level of faith). Response times will be paired with results from the BMMRS faith index to determine whether high religiousness translates to high attitude accessibility and whether accessibility of religious attitudes mediates how people process television news stories.

Next, each participant will watch six news stories, three from the religious condition and three from the non-religious condition, in succession on the same computer. Each participant will be informed that they will watch six short news stories lasting 20 seconds each and two minutes in total. However, participants will not see both the religious and non-religious condition of the same story. Each condition will receive equal use throughout the entire scope of the experiment. Corresponding religious and non-religious conditions will be identical except for the presence of the religious cue in the religious condition.

Each story in the religious condition will contain one religious prime word (See Appendix 3). These words are the same ones used in the first part of the experiment. Each participant will be randomly assigned to one of six randomly ordered experimental

conditions containing six news stories (three with a religious cue and three without a

religious cue) using a data collection program. In order to avoid story placement effects,

the prime will be placed within the first sentence of each reader. Each story will last

approximately twenty seconds each. There will be a short pause between completion of

one story and the beginning of the next story.

During each story participants will also be instructed to press the enter key as

soon as they hear the audio tone in the story. For the religious conditions, each tone will

follow 500 milliseconds after the religious prime word. In order to ensure the tone occurs

in the same spot in the non-religious conditions, it will be placed 500 milliseconds after

the point in time where the religious prime was placed in the religious condition. In other

words, the tone will manifest at the same point in time for each condition (religious and

non-religious) of a particular story. A second tone occurring in the second half of the

story (at least 10 seconds after the first tone) will measure resource allocation later in the

story.

STRT, in milliseconds, to the auditory tone will be measured and recorded for

each participant using the data collection program and joined with responses from the

religiosity index following participation in the experiment. Participants will be grouped

based on religiosity scores. The combination of STRTs and religious variables will

determine the extent to which those variables influence the perception of media

messages. Finally, participants will then complete the BMMRS index. Basic

demographic information (age, sex, ethnicity) will also be collected.

The preceding experiment along with the BMMRS is designed to better

understand how cognitive processes of religiosity impact communication. It is designed

to test participants in a way that will determine levels and differences in religiosity

previously determined only through subjective surveys and indices. The results of these

experiments will help further the study of religion's role in the communication process.

IV. RESULTS

49 journalism students, with a median age of 20, at a large Midwestern University participated in this experiment. 22 were male and 27 were female. Five participants were thrown out because of incomplete or missing data.

Research Question 1

The first research quested asked whether attitude accessibility mediates the impact of religious belief on television news articles. In order to test this research question this implicit attitude data was gathered through the use of six religious words and six non-religious words (Appendix 3). Research participants were asked to categorize the words as either religious or non-religious. Data analysis revealed several participants had incorrectly categorized the words (Table 2).

Table 2

Word	Times incorrectly categorized
God	4
Church	0
Prayer	0
Heaven	2
Jesus	0
Faith	3
Chicken	0
Plate	6
Shoelace	1
Pear	1
Blanket	1
Canyon	6

Words with incorrect categorizations were thrown out of the analysis, leaving three remaining religious words (Church, Prayer and Jesus). The mean reaction time, in milliseconds, for each participant was transformed into a single, new variable. A regression was performed to determine whether attitude accessibility (the speed at which participants categorized words as religious) predicted processing of television news stories containing religious cue words. There were no significant findings.

Research Question 2

The second research question asked whether organizational religiousness or spiritual experience had a bigger impact on attention to television news stories containing religious cues? An analysis of the index of religious belief, the Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS), used in this study is needed to further discuss the results of this research question.

A reliability analysis was conducted on both the Daily Spiritual Experience (Cronbach's $\alpha= .882$) and Organizational Religiousness sections (Cronbach's $\alpha=.821$) of the BMMRS. Questions in the index contained several different scales (Appendix 1). Z-scores were calculated for each question (Table 3) in order to standardize the scales. These z-scores were used to create an overall religious score for each participant. A factor analysis conducted on the index resulted in seven distinct factors containing at least two questions (Appendix 4).

Factor 1 described the greatest amount of variance. Four of the six questions about daily spiritual experience loaded on this factor, along with seven other questions. Only one of the questions about organizational religiousness loaded on any factor. These

findings made it difficult to determine any difference in organizational religiousness and spiritual experience.

Six television news stories, each with a religious and non-religious condition, were used in this experiment (Appendix 2). Each story contained two audio tones, as explained in the previous chapter, in order to measure secondary task reaction time. The first tone occurred within one second of the religious cue word, and within one second of where the religious word would be in the non-religious condition. The second audio tone, used to measure processing later in the story, was randomly placed within the last ten seconds.

Determining differences between the individual stories was not the direct aim of this research. As a result, syntax was written to combine the first reaction time (in milliseconds) of each story separately in the religious condition. A similar syntax was written for the first cue in the non-religious condition. In other words, this new number was an average of each participant's reaction time to the three religious cues and the three non-religious cues, separately. A corresponding syntax was written for the second audio cue for the corresponding religious and non-religious condition (Appendix 5). This created twelve new variables, one each for the first cue in the first, second and third stories in the religious (variable names, rel1a, rel2a, rel3a) and non-religious conditions (variable names, nrel1a, nrel1a, nrel3b), as well as a corresponding variable for the second audio cue in the religious (variable names, rel1b, rel2b, rel3b) and non religious (variable names, nrel1b, nrel2b, nrel3b) conditions.

Finally, a mean for the first reaction time was created for the three religious story conditions for each participant. The same was done for the non-religious condition as

well as the second audio cue in each condition. This created four new variables. One each for the first cue in the religious condition, second cue in the religious condition, first cue in the non-religious condition, and second cue in the non-religious condition.

Then, a regression was performed to determine whether the index was able predict processing during the religious story conditions (using the new variables) based on each of the seven factors of the BMMRS. No significant results were found.

A 2x2 (condition x cue placement) repeated measures ANOVA was used to test for differences between reaction times in the religious and non-religious story condition (Appendix 7).

Results for the difference between stories with a religious cue and stories without a religious cue approached significance (p= .066). The first and second cue in each story condition was then combined to create two variables, one each for the religious condition and non-religious condition (Appendix 6). This was done to create additional degrees of freedom. A paired sample t-test was then utilized to test differences between the religious and no-religious story condition (Appendix 8).

There was no change in the significance level (p=.066). An additional analysis of the mean reaction time for each condition found that audio cues in religious stories were processed slower than cues in non-religious stories (Appendix 9).

Research Question 3

The third research question asked whether the level of religious belief (high or low) impacts attention to television news stories that contain religious cues? Based on

the previous regression, no significant differences were found between those with high

religious belief and low religious belief based on BMMRS results.

V. DISCUSSION

This thesis was conceived to provide a foundation for future communication research into the impact of religion and media. The research questions, designed to probe the interaction of religion and television news, were based on Hill's (1994) insight into religious attitudes and Lang's (2000) model of message processing based on cognitive capacity.

Experimental testing did not yield any significant results. However, the findings yield two possible avenues for interpretation of the data. The first explanation is that religion in no way predicts or mediates attention to television news stories. The index of religious beliefs used in this research was not a significant predictor of television news use. A reliability analysis suggested the scales used fit well into their designated categories (organizational religiousness and spiritual experience). However, subsequent factor analysis revealed that questions that were supposed to measure the same idea did not load on the same factors.

This suggests that the index of religious belief used for this research may not have accurately or reliably defined the religious belief of the sample group. This finding is disappointing, but not entirely surprising. The literature review of this thesis discussed the difficulties of practical evaluation of personal religious belief.

While the previous explanation focuses on the measurement of religious belief, the religious cue words in the television stories must also be examined. The previous section indicated that difference in reaction time between stories with a religious cue and

those without approached significance (p=.066). Participants showed a slower reaction time to the secondary task when a religious word was present. The manipulation in this experiment, the presence or absence of one religious word, was small and correspondingly difficult to measure. A significance level of p=.066 is still a somewhat interesting finding.

This could mean certain religious words are significant no matter the level of a viewer's religious belief. Words like God, Jesus and church are certainly recognizable as religious to secular people, while words like faith and prayer carry strong non-religious meaning. The fact that this study was specifically designed to exploit each of the religious words in a non-religious context could further explain why they commanded attention across the spectrum of religious belief.

The simple, single word, manipulation was contained within a relatively complicated television news story. This research attempted to pick out significant effects based on this small manipulation within the noise of a visual message. In reality, there is a lot more going on during a television news story to serve as a distraction. The narrative quality of the stories could have easily served to wash out the presence of absence of a religious cue word. A religious word could have easily passed unnoticed to the viewer because each was set in a non-religious context. In other words, besides the cue word, there were no other religious indications or connotations in the entire news story. This again lends some credence to a nearly significant p=.066. This research helps provide a foundation for future research in processing of religious messages because it shows there are practical ways to manipulate religious ideas and test levels of religious belief.

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The literature review of this thesis asserts the complexity of defining religious belief. The nature of religious belief is deeply personal and often times defined internally on an individual basis. This makes measuring monolithic characteristics of religious belief a subjective task. Religious beliefs can shape how people perceive the world and how they make decisions. Because the media provide a channel for information and opinion, it follows that the melding of religion and media can be a power tool for persuasion. Finding out how religion and media interact is important because it can help explain why religious ideas are so important to so many people.

An additional post-hoc t-test was performed to test for significant differences between religious and non-religious words. In this case, the three religious words without incorrect responses were compared with the one non-religious word (Chicken) without incorrect responses. This data shows that religious words were more quickly categorized as religious than a word without religious connotation (Appendix 10). This lends power to the idea that religious words are meaningful no matter the participant's level of religious belief.

Limitations and Future Research

Despite the absence of any clear effects, this research was still valuable because it provides a foundation for future analysis of religious in media messages. This is increasingly important in an era when religious beliefs continue to cause confusing, conflict and misunderstanding in the media and among religious peoples in the United States and abroad. Gaining a better understating of how religious messages are disseminated in the media and how those messages are ingested and processed is needed in order to create a more seamless view of the communication process.

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This study has several limiting factors. Firstly, the absence of a definitive measurement of religious belief presented great difficulty in this study. The complexity and wide variance in the overall concept of religious belief has created problems for many scholars and the need for a better measurement of religious belief is still important. There is, however, no easy fix. The likely reason no perfect measurement of religious belief has been developed is that such an index cannot practically exist in a world filled with such a wide range of diverse belief systems. The ideas of organizational religiousness and spiritual experience were used to try to classify theological and practical differences within some religious people. But even these solidly defined concepts failed to show a difference in the sample population.

This research only scratched the surface of the most common Christian beliefs found in the United States. The religious cue words used in the television news stories were specifically Christian. Words like Jesus and God are broad enough to denote a general religious idea, but are not specific enough to elicit different responses among different religious people. This was illustrated by a slower secondary task reaction time to those religious words regardless of the extent of the participants' religious belief.

This study was further limited by the use of television news stories. The stories were fictional because they needed to contain specific religious words. Each story was recorded using a professional anchor sitting at an actual news desk, and looked real to an untrained viewer. However, the sample group, journalism students, is required to have a wide rage of knowledge about local and national news events. This certainly increased the chance that participants would identify the stories as fictional, therefore diminishing their desired effectiveness.

Future research in religious studies should continue to take into account the power of media messages. In the age to instant information, scholars in religion must better understand how the mass media communicate messages to religious people. This would help increase the understanding of how religious ideas are promulgated in society. Further investigation of psychophysiological measures of religious belief could yield better and more accurate ways of understanding how people's beliefs are manifested.

Future research in mass media should first focus on legitimizing religion as a variable in media transmission and use. Further investigation into the subject should also include religious images and video in television news stories. Other avenues of study should include a study of emotional words or images compared to religious words and images in television news. Studies should also not overlook the increasing popularity of specifically religious media. Religious leaders now have the opportunity to disseminate information quickly and to a large number of people. The results of this research indicate that religious ideas in media messages are processed differently. Future research should continue to hone in on what makes religion a mediating variable in the media. Adding additional insight from fields such as rhetoric could also yield additional research potential.

Conclusion

Despite the absence of significant results and grand theoretical conclusions the need for good research in media and religion still remains. Despite their large numbers, religious people remain a little understood group in media research. The merits of continuing research are not only theoretical, but also practical. Media producers and advertisers would benefit from knowing what words stimulate their viewers. Certain

religious cues may elicit responses in viewers that could increase the power and effectiveness of the message.   This research intended to bridge the gap between religion and communication science. Although the connecting spans were not found, the river certainly still exists.

Brief Multidimensional Measure of Religiousness/Spirituality

Daily Spiritual Experiences
The following questions deal with possible
spiritual experiences. To what extent can you say you experience the following:

1. I feel the presence of a higher power.
    1 - Many times a day
    2 - Every day
    3 - Most days
    4 - Some days
    5 - Once in a while
    6 - Never or almost never
2. I find strength and comfort in my religion.
    1 - Many times a day
    2 - Every day
    3 - Most days
    4 - Some days
    5 - Once in a while
    6 - Never or almost never
3. I feel deep inner peace or harmony.
    1 - Many times a day
    2 - Every day
    3 - Most days
    4 - Some days
    5 - Once in a while
    6 - Never or almost never
4. I desire to be closer to or in union with
  a higher power.
    1 - Many times a day
    2 - Every day
    3 - Most days
    4 - Some days
    5 - Once in a while
    6 - Never or almost never
5. I feel the love of a higher power for me,
  directly or through others.
    1 - Many times a day
    2 - Every day
    3 - Most days
    4 - Some days
    5 - Once in a while
    6 - Never or almost never

6. I am spiritually touched by the beauty of creation.
    1 - Many times a day
    2 - Every day
    3 - Most days
    4 - Some days
    5 - Once in a while
    6 - Never or almost never

Meaning
7. The events in my life unfold according to a divine or greater plan
    1 - Strongly agree
    2 - Agree
    3 - Disagree
    4 - Strongly disagree
8. I have a sense of mission or calling in my own life.
    1 - Strongly agree
    2 - Agree
    3 - Disagree
    4 - Strongly disagree

Values/Beliefs
9. I believe in a higher power who watches over me.
    1 - Strongly agree
    2 - Agree
    3 - Disagree
    4 - Strongly disagree
10. I feel a deep sense of responsibility for reducing pain and suffering in the world.
    1 - Strongly agree
    2 - Agree
    3 - Disagree

4 - Strongly disagree

Forgiveness

Because of my religious or spiritual beliefs:

11. I have forgiven myself for things that I
    have done wrong.
    1 - Always or almost always
    2 - Often
    3 - Seldom
    4 - Never
12. I have forgiven those who hurt me.
    1 - Always or almost always
    2 - Often
    3 - Seldom
    4 - Never
13. I know that I am forgiven by a higher
    power.
    1 - Always or almost always
    2 - Often
    3 - Seldom
    4 - Never

Private Religious Practices

14. How often do you pray privately in
    places other than at church or
    synagogue?
    1 - More than once a day
    2 - Once a day
    3 - A few times a week
    4 - Once a week
    5 - A few times a month
    6 - Once a month
    7 - Less than once a month
    8 - Never
15. Within your religious or spiritual
    tradition, how often do you meditate?
    1 - More than once a day
    2 - Once a day
    3 - A few times a week
    4 - Once a week
    5 - A few times a month
    6 - Once a month
    7 - Less than once a month
    8 - Never

16. How often do you watch or listen to
    religious programs on TV or radio?
    1 - More than once a day
    2 - Once a day
    3 - A few times a week
    4 - Once a week
    5 - A few times a month
    6 - Once a month
    7 - Less than once a month
    8 - Never
17. How often do you read the Bible or other
    religious literature?
    1 - More than once a day
    2 - Once a day
    3 - A few times a week
    4 - Once a week
    5 - A few times a month
    6 - Once a month
    7 - Less than once a month
    8 - Never
18. How often are prayers or grace said
    before or after meals in your home?
    1 - At all meals
    2 - Once a day
    3 - At least once a week
    4 - Only on special occasions
    5 - Never

Religious and Spiritual Coping

Think about how you try to understand and deal with major problems in your life. To what extent is each of the following involved in the way you cope?

19. I think about how my life is part of a
    larger spiritual force.
    1 - A great deal
    2 - Quite a bit
    3 - Somewhat
    4 - Not at all
20. I work together with a higher power as
    partners.
    1 - A great deal
    2 - Quite a bit
    3 - Somewhat
    4 - Not at all
21. I look to a higher power for strength,
    support, and guidance.
    1 - A great deal

2 - Quite a bit
3 - Somewhat
4 - Not at all

22. I feel I am being punished by a higher
    power for my sins or lack of spirituality.
    1 - A great deal
    2 - Quite a bit
    3 - Somewhat
    4 - Not at all

23. I wonder whether I have been abandoned
    by a higher power.
    1 - A great deal
    2 - Quite a bit
    3 - Somewhat
    4 - Not at all

24. I try to make sense of the situation and
    decide what to do without relying on a
    higher power.
    1 - A great deal
    2 - Quite a bit
    3 - Somewhat
    4 - Not at all

25. To what extent is your religion involved
    in understanding or dealing with
    stressful situations in any way?
    1 - Very involved
    2 - Somewhat involved
    3 - Not very involved
    4 - Not involved at all

Religious Support
These questions are designed to find out how much help the people in your congregation would provide if you need it in the future. If you do not have a congregation, please skip to question 30.

26. If you were ill, how much would the
    people in your congregation help you
    out?
    1 - A great deal
    2 - Some
    3 - A little

4 - None

27. If you had a problem or were faced with
    a difficult situation, how much comfort
    would the people in your congregation
    be willing to give you?
    1 - A great deal
    2 - Some
    3 - A little
    4 - None

Sometimes the contact we have with others is not always pleasant.

28. How often do the people in your
    congregation make too many demands
    on you?
    1 - Very often
    2 - Fairly often
    3 - Once in a while
    4 - Never

29. How often are the people in your
    congregation critical of you and the
    things you do?
    1 - Very often
    2 - Fairly often
    3 - Once in a while
    4 - Never

Religious/Spiritual History
30. Did you ever have a religious or spiritual
    experience that changed your life?
    No
    Yes
    IF YES: How old were you when
    this experience occurred?

    _____

31. Have you ever had a significant gain in
    your faith?
    No
    Yes
    IF YES: How old were you when this
    occurred?

    _____

32. Have you ever had a significant loss in
    your faith?
    No
    Yes

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IF YES: How old were you
when this occurred?

_____

Commitment
33. I try hard to carry my religious beliefs
    over into all my other dealings in life.
        1 - Strongly agree
        2 - Agree
        3 - Disagree
        4 - Strongly disagree
34. During the last year about how much
    was the average monthly contribution of
    your household to your congregation or
    to religious causes?
        $_____ per year OR
        $_____ per month
35. In an average week, how many hours do
    you spend in activities on behalf of your
    church or activities that you do for
    religious or spiritual reasons?

    _____

Organizational Religiousness
36. How often do you go to religious
    services?
        1 - More than once a week
        2 - Every week or more often
        3 - Once or twice a month
        4 - Every month or so
        5 - Once or twice a year
        6 – Never

37. Besides religious services, how often do
    you take part in other activities at a place
    of worship?
        1 - More than once a week
        2 - Every week or more often
        3 - Once or twice a month
        4 - Every month or so
        5 - Once or twice a year

6 - Never

Religious Preference
38. What is your current religious
    preference?

    _____
    IF PROTESTANT:
    Which specific denomination is that?

    _____

Overall Self-Ranking
39. To what extent do you consider yourself
    a religious person?
        1 - Very religious
        2 - Moderately religious
        3 - Slightly religious
        4 - Not religious at all
40. To what extent do you consider yourself
    a spiritual person?
        1 - Very spiritual
        2 - Moderately spiritual
        3 - Slightly spiritual
        4 - Not spiritual at all

Appendix 2

News Stories

1.1 God

A FAMILY INVOLVED IN A HOUSE FIRE LATE LAST NIGHT SAY THEY THANK GOD THEY ARE STILL ALIVE.

FIREFIGHTERS SPENT SEVERAL HOURS FIGHTING THE BLAZE.

THE FIRE CAUSED SEVERAL HUNDRED THOUSAND DOLLARS IN DAMAGE AND COMPLETELY DESTROYED THE HOME AND GARAGE.

NO ONE WAS INJURED.

INVESTIGATORS ARE STILL TRYING TO DETERMINE THE CAUSE OF THE FIRE.

1.2 No God

A FAMILY INVOLVED IN A HOUSE FIRE LATE LAST NIGHT SAY THEY'RE THANKFUL THEY ARE STILL ALIVE.

FIREFIGHTERS SPENT SEVERAL HOURS FIGHTING THE BLAZE.

THE FIRE CAUSED SEVERAL HUNDRED THOUSAND DOLLARS IN DAMAGE AND COMPLETELY DESTROYED THE HOME AND GARAGE.

NO ONE WAS INJURED.

INVESTIGATORS ARE STILL TRYING TO DETERMINE THE CAUSE OF THE FIRE.

.
2.1 Church

HIGH SCHOOL STUDENTS FROM ACROSS THE CITY GATHERED YESTERDAY TO MAKE REPAIRS TO A HISTORIC CHURCH.

SEVERAL TEACHERS ORGANIZED THE EVENT TO TEACH THE TEENS ABOUT RESPONSIBILITY AND VOLUNTEERING.

STUDENTS SPENT THE ENTIRE DAY HAMMERING, PAINTING WALLS AND REPAIRING BROKEN FLOOR TILES.

THE EVENT WAS PART OF A NEW PLAN TO ENCOURAGE HIGH SCHOOL KIDS TO GET INVOLVED IN THE COMMUNITY.

2.2 No Church

HIGH SCHOOL STUDENTS FROM ACROSS THE CITY GATHERED YESTERDAY TO MAKE REPAIRS TO A HISTORIC BUILDING.

SEVERAL TEACHERS ORGANIZED THE EVENT TO TEACH THE TEENS ABOUT RESPONSIBILITY AND VOLUNTEERING.

STUDENTS SPENT THE ENTIRE DAY HAMMERING, PAINTING WALLS AND REPAIRING BROKEN FLOOR TILES.

THE EVENT WAS PART OF A NEW PLAN TO ENCOURAGE HIGH SCHOOL KIDS TO GET INVOLVED IN THE COMMUNITY.

3.1 Prayer

A RECENT STUDY SHOWS PRAYER AND SOME PERSONAL QUIET TIME COULD BE GOOD FOR YOUR HEALTH.

RESEARCHERS FOUND SETTING ASIDE JUST TWENTY MINUTES EACH DAY REDUCED THE CHANCE OF HEART ATTACKS BY TEN PERCENT.

ONE HUNDRED ADULTS PARTICIPATED IN THE EXPERIMENT.

OTHER STUDIES HAVE SHOWN SPENDING A FEW MINUTES ALONE EACH DAY CAN ALSO REDUCE STRESS.

3.2 No Prayer

A RECENT STUDY SHOWS SOME PERSONAL QUIET TIME COULD BE GOOD FOR YOUR HEALTH.

RESEARCHERS FOUND SETTING ASIDE JUST TWENTY MINUTES EACH DAY REDUCED THE CHANCE OF HEART ATTACK BY TEN PERCENT.

ONE HUNDRED ADULTS PARTICIPATED IN THE EXPERIMENT.

OTHER STUDIES HAVE SHOWN SPENDING A FEW MINUTES ALONE EACH DAY CAN ALSO REDUCE STRESS.

4.1 Heaven

A SMALL PLANE ORIGINATING IN HEAVEN, IOWA MADE AN EMERGENCY LANDING IN A CORNFIELD JUST OUTSIDE CITY LIMITS EARLIER TODAY.

THE CHARTERED PLANE WAS ON ITS WAY TO A BUSINESS MEETING IN KENTUCKY.

THE PILOT AND THREE PASSENGERS WERE ALL TREATED FOR MINOR INJURIES.

INVESTIGATORS ARE STILL TRYING TO DETERMINE THE CAUSE OF THE CRASH.

4.2 No Heaven

A SMALL PLANE ORIGINATING IN IOWA MADE AN EMERGENCY LANDING IN A CORNFIELD JUST OUTSIDE CITY LIMITS EARLIER TODAY.

THE CHARTERED PLANE WAS ON ITS WAY TO A BUSINESS MEETING IN KENTUCKY.

THE PILOT AND THREE PASSENGERS WERE ALL TREATED FOR MINOR INJURIES.

INVESTIGATORS ARE STILL TRYING TO DETERMINE THE CAUSE OF THE CRASH.

5.1 Jesus

MEMBERS OF THE GROUP JESUS FOR JUSTICE STAGED A PROTEST ON THE STEPS OF THE STATE CAPITOL TODAY.

THE DEMONSTRATORS ARE PROTESTING A RECENT DECISION TO SEND TWO ADDITIONAL MISSOURI NATIONAL GUARD UNITS TO IRAQ

THEY HELD SIGNS AND SHOUTED ANTI-WAR SLOGANS.

THIS IS THE SECOND TOUR OF DUTY FOR MANY OF THE SOLDIERS IN BOTH UNITS.

5.2 No Jesus

MEMBERS OF THE GROUP CITIZENS FOR JUSTICE STAGED A PROTEST ON THE STEPS OF THE STATE CAPITOL TODAY.

THE DEMONSTRATORS ARE PROTESTING A RECENT DECISION TO SEND TWO ADDITIONAL MISSOURI NATIONAL GUARD UNITS TO IRAQ

THEY HELD SIGNS AND SHOUTED ANTI-WAR SLOGANS.

THIS IS THE SECOND TOUR OF DUTY FOR MANY OF THE SOLDIERS IN BOTH UNITS.

6.1 Faith

CITY COUNCIL MEMBERS SAY THEY HAVE FAITH A VOTE ON AN UPCOMING ANNEXATION MEASURE WILL PASS.

PLANNERS AND ENGINEERS HAVE SAID THE NEW LAND IS NECESSARY TO EXPAND THE EXISTING CITY LANDFILL.

EXPERTS SAY THE CURRENT LANDFILL IS NEAR ITS MAXIMUM CAPACITY.

A MAJORITY OF COUNCIL MEMBERS MUST VOTE YES NEXT WEEK IN ORDER TO APPROVE THE ANNEXATION.

6.2 No Faith

CITY COUNCIL MEMBERS SAY THEY BELIEVE A VOTE ON AN UPCOMING ANNEXATION MEASURE WILL PASS.

PLANNERS AND ENGINEERS HAVE SAID THE NEW LAND IS NECESSARY TO EXPAND THE EXISTING CITY LANDFILL.

EXPERTS SAY THE CURRENT LANDFILL IS NEAR ITS MAXIMUM CAPACITY.

A MAJORITY OF COUNCIL MEMBERS MUST VOTE YES NEXT WEEK IN ORDER TO APPROVE THE ANNEXATION.

Appendix 3

Prime Words

Religious Words:
1) God
2) Church
3) Prayer
4) Heaven
5) Jesus
6) Faith

Non-religious Words:
1) Chicken
2) Plate
3) Shoelace
4) Pear
5) Blanket
6) Canyon

Appendix 4

	Component							
	1	2	3	4	5	6	7	8
Zscore: DSEclse	.803	.233	-.217	-.128	.146	-.218	-.113	.067
Zscore: DSEfeel	.855	.150	-.252	-.081	.043	.020	.038	-.101
Zscore: DSEpece	.304	.291	.274	-.533	.391	-.150	.243	.021
Zscore: DSEpres	.705	.038	-.442	-.167	.208	-.008	-.033	-.111
Zscore: DSEstr	.865	.078	-.217	-.083	-.056	-.112	-.063	-.094
Zscore: DSEtuch	.584	.228	-.074	-.332	-.043	.060	-.213	-.310
Zscore: MNGcall	.541	.056	.418	-.340	-.468	-.147	-.117	-.035
Zscore: MNGplan	.743	-.205	-.117	.122	-.281	-.160	-.148	.179
Zscore: VBpain	.295	.262	.509	-.451	-.311	.024	-.372	.043
Zscore: VBwtch	.825	.051	-.336	.138	-.182	-.009	.046	-.002
Zscore: FGfgve	.248	.276	.531	.087	.141	.429	.307	-.155
Zscore: FGhp	.843	.153	-.188	.067	-.122	.161	.110	-.090
Zscore: FGhurt	.290	.553	.241	.224	-.103	.103	.102	-.463
Zscore: PRPbble	.693	-.026	.218	.208	.405	-.030	-.338	.003
Zscore: PRPeat	.745	-.265	.117	.207	.187	-.174	.105	.149
Zscore: PRPmed	.481	.172	-.078	-.220	.520	.291	-.212	.229
Zscore: PRPpray	.808	.152	-.192	.289	-.017	.197	.026	-.166
Zscore: PRPprgm	.451	-.185	.258	.158	-.148	.554	-.274	.263
Zscore: RSCthnk	.711	.036	.098	-.383	-.025	-.051	.078	.325
Zscore: RSCwork	.621	-.002	-.258	-.228	-.010	.376	.269	.343
Zscore: RSClook	.862	.071	-.040	.030	-.223	.102	.027	-.057
Zscore: RSCunsd	.885	.079	.016	-.016	.063	-.067	.207	-.117
Zscore: FLIPrscwndr	.248	.587	-.009	.368	-.159	-.119	-.041	.360
Zscore: FLIPrsctry	.605	.016	-.169	.249	-.160	.008	-.042	.104
Zscore: FLIPfscfeel	.039	.610	.366	.347	.072	-.247	.278	.265
Zscore: RSill	.836	-.221	.153	-.097	-.045	-.113	.168	.071
Zscore: RSprob	.745	-.338	.250	.188	-.077	-.129	.150	.042
Zscore: RScrit	.467	-.644	.163	-.075	.096	-.120	.075	-.185
Zscore: RSdmnd	.582	-.596	.258	-.055	-.069	.118	.309	.003
Zscore: CMTcrry	.803	.082	-.061	-.044	-.055	-.173	.073	-.076
Zscore: ORattnd	.720	-.252	.200	.301	.159	.065	-.217	-.142
Zscore: ORother	.618	-.045	.317	.264	.291	-.198	-.292	-.023

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Appendix 5

if cond = 1 rel1a = j51a_r.
if cond = 2 rel1a = f61a_r.
if cond = 3 rel1a = c21a_r.
if cond = 4 rel1a = h41a_r.
if cond = 1 rel1b = j51b_r.
if cond = 2 rel1b = f61b_r.
if cond = 3 rel1b = c21b_r.
if cond = 4 rel1b = h41b_r.

if cond = 1 rel2a = g11a_r.
if cond = 2 rel2a = h41a_r.
if cond = 3 rel2a = j51a_r.
if cond = 4 rel2a = p31a_r.
if cond = 1 rel2b = g11b_r.
if cond = 2 rel2b = h41b_r.
if cond = 3 rel2b = j51b_r.
if cond = 4 rel2b = p31b_r.

if cond = 1 rel3a = p31a_r.
if cond = 2 rel3a = c21a_r.
if cond = 3 rel3a = g11a_r.
if cond = 4 rel3a = f61a_r.
if cond = 1 rel3b = p31b_r.
if cond = 2 rel3b = c21b_r.
if cond = 3 rel3b = g11b_r.
if cond = 4 rel3b = f61b_r.

if cond = 1 nrel1a = ff62a_r.
if cond = 2 nrel1a = g12a_r.
if cond = 3 nrel1a = p32a_r.
if cond = 4 nrel1a = c22a_r.
if cond = 1 nrel1b = f62b_r.
if cond = 2 nrel1b = g12b_r.
if cond = 3 nrel1b = p32b_r.
if cond = 4 nrel1b = c22b_r.

if cond = 1 nrel2a = c22a_r.
if cond = 2 nrel2a = j52a_r.
if cond = 3 nrel2a = h42a_r.
if cond = 4 nrel2a = j52a_r.
if cond = 1 nrel2b = c22b_r.
if cond = 2 nrel2b = j52b_r.

if cond = 3 nrel2b = h42b_r.
if cond = 4 nrel2b = j52b_r.

if cond = 1 nrel3a = h42a_r.
if cond = 2 nrel3a = p32a_r.
if cond = 3 nrel3a = f62a_r.
if cond = 4 nrel3a = g12a_r.
if cond = 1 nrel3b = h42b_r.
if cond = 2 nrel3b = p32b_r.
if cond = 3 nrel3b = f62b_r.
if cond = 4 nrel3b = g12b_r.

compute Rcue1 = (rel1a+rel2a+rel3a)/3.
compute Rcue2 = (rel1b+rel2b+rel3b)/3.
compute NRcue1 = (nrel1a+nrel2a+nrel3a)/3.
compute NRcue2 = (nrel1b+nrel2b+nrel3b)/3.

Appendix 6

compute Rcue = (rel1a+rel2a+rel3a+rel1b+rel2b+rel3b)/6.
compute NRcue = (nrel1a+nrel2a+nrel3a+nrel1b+nrel2b+nrel3b)/6.

Appendix 7

Source		Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Religious	Sphericity Assumed	14623.719	1	14623.719	3.546	**.066**	.069
	Greenhouse-Geisser	14623.719	1.000	14623.719	3.546	**.066**	.069
	Huynh-Feldt	14623.719	1.000	14623.719	3.546	**.066**	.069
	Lower-bound	14623.719	1.000	14623.719	3.546	**.066**	.069
Error(Religious)	Sphericity Assumed	197926.420	48	4123.467			
	Greenhouse-Geisser	197926.420	48.000	4123.467			
	Huynh-Feldt	197926.420	48.000	4123.467			
	Lower-bound	197926.420	48.000	4123.467			
Cue	Sphericity Assumed	30483.497	1	30483.497	8.855	.005	.156
	Greenhouse-Geisser	30483.497	1.000	30483.497	8.855	.005	.156
	Huynh-Feldt	30483.497	1.000	30483.497	8.855	.005	.156
	Lower-bound	30483.497	1.000	30483.497	8.855	.005	.156
Error(cue)	Sphericity Assumed	165236.642	48	3442.430			
	Greenhouse-Geisser	165236.642	48.000	3442.430			
	Huynh-Feldt	165236.642	48.000	3442.430			
	Lower-bound	165236.642	48.000	3442.430			
Religious * cue	Sphericity Assumed	2412.681	1	2412.681	.862	.358	.018
	Greenhouse-Geisser	2412.681	1.000	2412.681	.862	.358	.018
	Huynh-Feldt	2412.681	1.000	2412.681	.862	.358	.018
	Lower-bound	2412.681	1.000	2412.681	.862	.358	.018
Error(Religious*cue)	Sphericity Assumed	134412.791	48	2800.266			
	Greenhouse-Geisser	134412.791	48.000	2800.266			
	Huynh-Feldt	134412.791	48.000	2800.266			
	Lower-bound	134412.791	48.000	2800.266			

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Appendix 8

		Paired Differences					t	df	Sig. (2-tailed
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		Mean	Std. Deviation	Std. Error Mean
Pair 1	Rcue – Nrcue	17.27551	64.21423	9.17346	-1.16897	35.71999	1.883	48	.0

Appendix 9

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Rcue	373.8844	49	106.77664	15.25381
	NRcue	356.6088	49	82.80512	11.82930

Appendix 10

	Test Value = 0					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
	Lower	Upper	Lower	Upper	Lower	Upper
ReligAA	24.540	48	.000	808.29932	742.0724	874.5263
Chicken	13.689	48	.000	1032.041	880.45	1183.63

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