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Religion, Spirituality, and the Workplace: A Meta-Analytic Study on Outcomes of Job
Satisfaction, Job Performance, and Organizational Citizenship Behaviors

Juan Balcazar

St. Mary's University

Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Science
In the
Industrial-Organizational Psychology Program
May 1, 2020

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ABSTRACT

Research indicates behavioral and attitudinal manifestations of religion and spirituality exert cross-domain impact across cognitive, intrapersonal, biological, industrial-organizational, and behavioral domains (Calman, 2008; Ngunjiri & Miller, 2004). The present study conducted a meta-analysis of both religious and spirituality (RS) as predictors on outcomes of job satisfaction, job performance, and organizational citizenship behavior. The present study seeks to delineate and distinguish religious faiths from spirituality by comparing the pooled effect size of religion studies with spirituality studies. A random effects model was analyzed for two subgroups on each dependent variable. Next, a subgroup fixed effects (plural) model was utilized to detect differences between subgroups. For outcomes of job satisfaction, job performance, and OCBs, no statistically significant differences between subgroups was found, $p > .05$. The findings of this study show that religion and spirituality are equally competent predictors of these workplace outcomes. Implications and limitations are discussed.

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Religion, Spirituality, and the Workplace: A Meta-Analytic Study on Outcomes of Job Satisfaction, Job Performance, and Organizational Citizenship Behavior

A cursory glance at the world today reveals both the presence and prevalence of religion and spirituality (RS). RS is increasingly functional in global society, influencing people's beliefs, and attitudes and thereby remaining a present fixture of modern discourse (Jurgensmeyer, 2005). Religion, which has been defined as the set of beliefs concerned with a person's destiny and morality, has become a frequent research topic across a wide variety of psychological and sociological research inquiries (Ghazzawi, Smith, & Cao., 2016; Ngunjiri & Miller, 2004). Spirituality, defined as the general awareness of the spiritual and transcendent, is likewise a frequent research topic. An array of disciplines have shown pointed research interest in RS, including the fields of medicine, biology, sociology, and psychology. Koenig (1999), for instance, reports cumulative research linking RS to physiological health; research has shown, for example, that religious individuals are less likely to suffer heart disease and are associated with lower mortality rates. The palliative care literature reports a connection between spiritual well-being (SWB) and a person's levels of job satisfaction and levels of life satisfaction (Clark, Leedy, McDonald, & Mueller, 2007). In addition, in sociology, religion has been studied relevant to group norms, and has been touted as a prominent factor in an individual's socialization strategy (Bandura, 1986).

Within psychology, studies have reported cross-domain impact of RS across cognitive, intrapersonal, industrial-organizational, and behavioral domains (Calman, 2008; Ngunjiri & Miller, 2004). Zhong and colleagues (2017) for instance explored the impact of religion on the

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pre-frontal cortex when processing abstractions and deeply held beliefs. In personality psychology and psychoanalytic psychology, religion plays a role in the self-identification mechanism, offering meaning, a sense of belonging, and meta-narrative value (Peterson, 2000; Duchon & Plotman, 2005). In the counseling literature, the absence of religion and absence of general forms of spirituality have been linked to increased risk of substance abuse in youths. In particular, researchers have looked at links between levels of religiosity and commitment to treatment (Shields, Broome, Delany, Fletcher, & Flynn, 2007) Researchers have also noted a correlation between religion and levels self-esteem and self-efficacy (Kutcher, Bragger, Rodriguez-Srednicki, & Masco, 2010).

In industrial-organizational psychology (I/O), religion has been explored in relation to employee well-being (Fry, 2005), team performance (Duchon & Plotman, 2005), corporate social responsibility (Fry, 2005), and job satisfaction (Robert, Young, & Kelly, 2006). I/O research suggests a correlation between religion and spirituality on outcomes of job satisfaction and job performance (Ghazzawi et al., 2016; Rezapour, 2016); the connection between RS and pro-civil behavior outcomes and to civil norms has also been documented (Gyeyke & Salminen, 2008).

Globally, religious influence is increasing, attenuated by a trend in younger generations to identify as 'no religion.' Scholars have been quick to point however that individuals who self-identify as 'no religion' are not necessarily irreligious, practicing some form of personal spirituality that does not associate itself with an institutional religion (Drescher, 2016). Further, in the United States, a 2016 Gallup Poll revealed approximately 80% of Americans identify with a religion (Newport, 2016). Moreover, a report by the Pew Research Center showed that Eastern

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European nations are increasingly religious. In particular, for the nations of Romania, Armenia, Georgia, Greece, and Moldova, one in two people identified as highly religious and highly committed to religion. Western Europe also reported considerable levels of religiosity; in Spain, the Netherlands, and Norway, approximately 1 in 5 reported as religious (Evans & Baronavski, 2018). In the Asia-Pacific region, 1 in 4 people identified as Hindu and a similar number identify as Muslim. A myriad of smaller folk religions self-identify in smaller numbers as religious, including Chinese folk religion and aboriginal religions (Pew Research Center, 2010). Overall, researchers estimated over 80% of surveyed global populations identify with a religious group, accounting for an estimated 5.8 billion adults and children self-describing as religiously affiliated (Pew Research Center, 2012).

In I/O psychology, research interest in RS has emerged only recently. Coaxed by initial forays within subfields of psychology, a shift towards RS research has become prominent in I/O (Dean, Fornaciari, & McGee, 2003). The substantial role religion and spirituality plays within the individual is often cited as persuasive evidence for the renewed research priority of RS; however, King (2008) notes the overall exploration of RS and its workplace-related impact has been inadequate, suggesting that current research efforts should continue but at greater rigor.

Despite the improved academic recognition RS now enjoys, researchers have noted several challenges affecting religion-related and spirituality-related research (Fetzer Institute, 1999; Hackney & Sanders, 2003). Among the chief concerns laid by researchers is the perceived difficulty associated with defining religion. A second concern is the accumulating number of diverging operational definitions and conceptual models. These diverging definitions might account for the relatively few studies in the industrial-organizational literature in comparison to

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other fields. Additionally, competing abstractions might obfuscate the research landscape, in turn discouraging future research; lack of clarity associated with definitions of RS and associated with measurements of RS can also question the construct validity of current research efforts. Simultaneously, lack of construct precision may lead to a tendency to probe for effects without firm theoretical foundation (Fetzer Institute, 1999; Hackney & Sanders, 2003).

The need for careful and rigorous research of RS is founded by the relatively novel nature of RS in the workplace. Benefiel & Geigle (2014) argue that RS in the workplace is a relatively new scientific endeavor, distinctive in its need to borrow from the psychology of religion and the psychology of spirituality, noting that Rs is not typically linked to the workplace. The need for a meta-analytic review of the research becomes apparent, insofar to render an aggregate picture of the research landscape and help determine a level of confidence for the relationship between RS on workplace outcomes. A meta-analytic study of religion or spirituality for the purpose of a dissertation or thesis requirement has a number of research precedents(e.g. research to fulfill requirement for a Master of Education, College of Avondale; research to fulfill requirements for a doctoral dissertation at the University of North Carolina at Charlotte). Moreover, the technique of meta-analysis not only brings aggregate results into view, but it helps re-clarify assumptions and illuminate long-standing misconceptions about the relationship between two or more variables or correlational research (Ellis, 2010). As with any research endeavor involving correlational research, a meta-analysis of correlation, such as the present study conducts, can only suggest one variable covaries with another, but cannot imply one variable is causing another.

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The present study conducts a meta-analysis for the relationship between religion and spirituality (RS) on job satisfaction, job performance, and organizational citizenship behaviors.

The present study has three stated goals:

- 1) To re-evaluate the relationship between religion on three distinct workplace outcomes *and* the relationship of spirituality on the same three distinct workplace outcomes. These outcomes are job satisfaction, job performance, and organizational citizenship behavior. These workplace outcomes are frequently cited in the I/O literature (Staw, 1984; Duchon & Plotman, 2005).
- 2) To compare the meta-analytic effect size of studies which used religion scales with studies which used spirituality scales.
- 3) To clarify the distinctions and similarities between the religion and the spirituality and encourage further scholarly discussion of religion and spirituality.

A review of the literature, which now follows, introduces background, definitions, and necessary context.

Literature Review

Origins of Religion and Spirituality in Psychology

The following sections detail the historical origins of religion and spirituality within psychology. This section consists of a discussion of the philosophical climate in which RS first sprouted psychology roots, a discussion of early contributors, and an analysis of key historical movements which drove religion into the social sciences and applied sciences. Finally, a discussion of modern research efforts is presented.

Early Philosophical Climate.

Strides in the systematic study of religion and spirituality (RS) as a psychological and social science may be traced back to the psychologist William James. Before the 1800s, religion predominantly existed within metaphysical and theological discourse; spirituality was merely an important theological touchpoint within religion. The zeitgeist of the early 1800s discouraged systematic discussion of religion, barring it from scientific adoption (Dunn, 2016). The culture of the day perceived religion as singular theological concern, devoid of application above and beyond the ecclesiastical paradigm. These attitudes waned in the aftermath of William James's "Essays in Radical Empiricism" and "A Pluralistic Universe" (Dunn, 2016; Parsons, 2010).

Religion's misaligned perception and reluctant scientific progress during this epoch may be explained by the prevailing Kantian notions of epistemology (philosophy of knowledge). While Kant and his contemporaries believed reality was bounded by our sensory perception and intuition, James, in a revolutionary departure, argued that aspects of the human experience exceeded intuition. For James, human faculties of sense perception are inherently deficient and incapable of observing objects below a visual threshold. James therefore argued religion and the

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spiritual could be valid and functional, independent if they could be made logical or visible. By these arguments, James noted that asserting spiritual claims cannot be true is questionable at the least (Dunn, 2016). In summary, James rejected the commonly accepted rationalism paradigm of the day and ushered in fervent interest in the fields of philosophy and religion about RS.

Contributions by William James and Stanley Hall

By the early 1900s, conferences of religion and psychology were flourishing across the Eastern United States. Alongside Harvard University, Clark University became the heart of the psychology movement within America, attracting a long list of scholars and icons including G. Stanley Hall, William James, Carl Jung, and Sigmund Freud to the university. Most notably, the lectures and essays disseminated by James and his longtime friend and colleague G. Stanley Hall stoked the fire of what became known in its early days as the Clark school of religious psychology, now referred to as the psychology of religion movement (PRM; Parsons, 2010; Vande Kemp, 1992). G. Stanley Hall is credited for giving PRM a permanent scientific home at Clark University. As the first president of the American Psychological Association, Hall is noteworthy for his exploration of the human soul in his lectures and writings, seeking to detach the metaphysical from the theological framework that had been long dominant in RS discussion.

While James and Hall are credited for contributing to RS within psychology, they approach RS and wrote about RS distinctly enough that both their works became a complementary union of ideas and discourse within the early days PRM. Clark, in his *Jesus, the Christ, in the Light of Psychology*, sought to unmask the psychology behind Jesus' parables and teaching within the Christian Bible; Hall also recognized that religion as a concept

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was much better served as the aggregate of multiplicity of viewpoints, all of which shed light towards a theoretical definition that approaches reality. James,' on the other hand, sought to underscore the utility of religion and the experiential component of religion. (Pratt, 1908; Vande Kemp, 1992). In *Varieties of Religious Experience*, James suggests the *variability* of religious experience within individuals is the most salient research topic, worthy of rigorous psychological analysis (Vande Kemp, 1992). James is credited also for admonishing the conflation of the morality and ethics of religion from the utility of religion (Baucal & Zittoun, 2013), an argument which would usher in the school of pragmatism in philosophical and psychological circles.

Functional Religion and the Protestant Work Ethic

Functional Religion (FR) was a historical movement which applied religion as sociological and economic predictor. In addition, FR is concerned with the relationship between religion and self-actualization, as well as individual happiness and satisfaction (Martinson & Wilkening, 1983). Key figures of the FR movement included Karl Marx and Max Weber, who in the 19th century were praised among the scientific circles of the day for their writing contributions to the social sciences. Both Marx and Weber were among early thinkers who initiated discussions of religion outside a supernatural ecclesiastical context, thereby integrating religion within the social sciences (Parsons, 2010). Weber is credited for mapping religion to the workplace in his book *The Protestant Ethic and the Spirit of Capitalism*. Weber argued a person's belief in the metaphysical and the supernatural formulated a distinct belief in a subset of workplace values, namely, the Protestant Work Ethic (PWE). Weber further argued PWE is a responsible agent for powering and fueling capitalist societies (Furnham, 1984). In the 20th and 21st century, a number of scales have adapted from Weber's original model (Hassan, 1937;

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Neubert, Dougherty, Park, & Griebel, 2014). For instance, Hassan (1937; see Appendix A) enumerated the following 7 dimensions of PWE: rational and scientific attitude towards nature and experience, denial of impulse expression, method and discipline in lifestyles, work as a calling and a rational pursuit of duty.

Religion and Spirituality (RS) in Modern Research

At the turn of the 20th century, the assumptions and theories of PRM both influenced the prominent school of behaviorism and enabled the emergence of experimental branches, including what became the Neo-Freudian school. The influence of PRM also led to the introduction of phenomenological and the existential principles in growing subfields of psychology. The period after WWII saw renewed research interest of religion in the human sciences, religion in personality research, and religion in cultural research (Parsons, 2010). The renewed interest in religion continued throughout the 20th century, both contributing to established academic fields and helping develop brand new disciplines in the social sciences. As a consequence of idea borrowing, influence of RS in mainstream psychology began to wane as RS became increasingly associated with peripheral schools of thought; some of these schools were perceived to be fringe, which led to the characterization of religion in psychology as fringe and niche (Parsons, 2010).

In recent times, the field of psychology has resurfaced the ideas of RS in connection with human well-being, the workplace, and mental health. This accrued growth has been particularly strong in industrial-organizational psychology (I/O). In an important research advancement, spirituality, religion and work (SRW) was officially recognized by the Academy of Management with the formation of the Management, Spirituality, and Religion (MSR) interest group. Researchers have argued this acknowledgement by Academy of Management played an

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important role for advocating the significance of RS to both psychology research and greater academia; Dean and colleagues therefore argue that innovative inquiry in RS and applied, relevant inquiries will continue to evidence the marked importance of RS (Dean, Fornaciari, & McGee, 2003). A growing number of well-cited research has explored RS on the workplace. For instance, a study by Altaf and Awan (2011) explored the influence of workplace spirituality on job overload and job satisfaction. Additionally, a study by Perrone and colleagues (2006) explored the relationship of spirituality to family roles, work roles, and life satisfaction. The milestone literature review by Karakas examines spirituality on job and task performance outcomes in organizations. Moreover, on outcomes of organizational citizenship behavior, Chen and Yang (2012) analyzed the predicted impact of spiritual leadership, noting that values, attitudes, and behaviors of leaders positively influence vocational calling and enhance altruistic behaviors such as helping co-workers.

The rise of research examining RS in the modern era has been explained as the result of two key factors: greater prevalence of leisure time and the proliferation of religion across scientific disciplines. First, an increase in leisure time has allotted both break hours and a sense of informality, which might encourage employees to behave more openly and freely exercise their religious or spiritual faith within their workspace (Krishnakumar & Neck, 2002). Saeed and colleagues (2007), for instance, observe that RS in the workplace is typically manifested through religious prayer rooms and reading clubs wherein participants read religious and spiritual literature and discuss amongst themselves. Second, the proliferation of the religious construct across disciplines magnified both the ubiquity and relevance of religion as an interconnected variable operating in many scientific fields. This has led to a growing number of more academic

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disciplines who recognize the positive effects of religion. For instance, religion has become an essential bullet point in building a holistic picture of human wellness among medical institutions. US medical schools also observed an increase in spirituality-focused curriculum from 13% to 75% (Calman, 2008). By the 1990s, the World Health Organization (WHO) had incorporated spiritual health in its definition of health, alongside physical, mental, and social well-being.

The 1990 issue of *Business Week* would herald the arrival of workplace spirituality: “Get used to it. Spirituality is creeping into the office... and companies are turning inward in search of a soul as a way to foster creativity and to motivate leaders” (*Business Week*, June 5, 1995, p. 82-84). In that same decade, *HR Magazine* led with the prompt, “Yesterday’s business motto was lean and mean. Today’s business motto is lean and meaningful” (*HR Magazine*, August 1998, p. 46). The implementation of RS in the workplace has been a frequent topic of discussion in the literature (Karakas, 2010). Pew Research surveys show the widespread profession of religious faith and spiritual faith. Given the variation of religious commitment among religious individuals, Hicks (2013) nonetheless notes the *priority* religious and spiritual individuals attribute to their religion, marking it as a central element in their lives.

Nomological Network

This section discusses definitions of constructs pertaining to religion and constructs pertaining to spirituality. Religion-related constructs include religion, religiosity, religious affiliation, religious commitment, and others. In addition, spirituality and spirituality-related constructs are also defined and described.

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Religion

The word “religion” is derived from the Latin “*religare*” meaning “to bind.” A definition of religion, derived from this etymology, is a binding network between humans, a deity, and the precepts of a deity (Atran & Henrich, 2010). Religion can be operationally defined as the verbal or behavioral manifestation of spiritual belief on the two primary concerns: the nature of man’s destiny and the nature of right and wrong (Lenski, 1969; Von Bergen 2009; Ghazzawi et al., 2016). Neusern (2008) defines religion as an organized coherent system of beliefs. Religion however presents a unique set of challenges borne by the supernatural nature of the construct, referred to by Crawford (2003) as the supernatural problem. To overcome this hurdle, Crawford sought to construct a unified picture of religion based on ethical, legal, ritual, institutional, credal, and political definition of religion. This multi-dimensional approach seeks to anchor religion in a variety of disciplines, by explanation of constructs already well-defined (Crawford, 2003). While scholars such as Smith (2014) have argued religion cannot be a native category, religion has still been described as a universal implicit quality, characterized by human thought, human action, expression of belief, and manifested in behavioral norms. Smith (2014) further adds that the uniqueness of religion comes by its central tenet of *ultimate concern*. Practically, this refers to an underlying concern under which all things in a person’s life are subordinated. The religious individual therefore operates under the notion that the universe and all the things in their life are beholden to a higher and ultimate concern.

Religiosity

The term religiosity is often used interchangeably with religion. However, more precisely, religiosity is defined as the character or predisposition to organized religions (Hill &

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Pargament, 2003). Dister (1999) defines religiosity as a person's awareness to any religious teaching and subsequent desire to adopt that faith (Darto, Setyadai, & Riadi, 2015). Thus, religiosity is the mental state and disposition for religious teaching. Definition of religiosity had been held back by two substantial hurdles: uncertainty of lexical definition and multiplicity of vantage points. (Holdcroft, 2006). Researchers point to Glock and Stark (1965) as a key milestone in defining religiosity by anchoring religiosity among five dimensions: experiential, ritualistic, ideological, intellectual, and consequential. The most prominent of these, the experiential, is concerned with personal transcendent encounter involved in personal faith. Another dimension is the intellectual dimension, concerned with cognitive apprehension of his or her religion's teachings and guidelines. Although scholars hesitate to define religiosity in shortened word or sentence, Glock and Stark's model is useful in addressing religiosity from a variety of vantage points, lending considerable insight in pursuing a definition of religiosity. Similar to Glock and Stark's model, Fukuyama four dimensions of religiosity consist of the following: cognitive, cultic, creedal, and devotional (Holdcroft, 2006).

Other researchers have likewise reiterated the complexity of defining religiosity as a simple 'single-word' definition or sentence definition. Harvey and colleagues (2016) argues that religiosity is a multi-layered construct that encapsulates several facets which include emotional, cognitive, motivational, and behavioral (Hackney & Sanders, 2003). As a shared experience, the effect of religiosity transfers in spite of differing cultural climate. Harvey and colleagues (2016) note religiosity is correlated to interdependence and collectivism, even in individualistic cultures.

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Religious Motivation

A variety of religious indicators have been developed to aid in the research and assessment of the construct. Among these indicators, Stojkovic and Miric (2012) define the term *religious motivation* to denote a person's end goal for why they subscribe to a religious teaching. The most popular of these scales is Allport's Religious Extrinsic-Intrinsic (1967; see Appendix B), which classifies people who leverage religion for sociability and social status as *extrinsically oriented* while those who view religion as its own goal to be *intrinsically oriented* (Stojkovic & Miric, 2012). Despite the fact that the religious motivation construct is not as frequently measured, Allport's conceptualization has been among the most dominant in the academic literature and empirical psychology (Hartford Institute for Religious Research).

Religious Affiliation

A second indicator is *religious affiliation*, which was described by Olson & Warber (2008) as the belonging to a specific religion tradition (e.g. the Roman Catholic Church or Lutheran denomination). Religious motivation was developed as a reaction to many the various religious traditions throughout history. As religious teachings and traditions are disseminated from past generations, the family unit is likely to favor teachings attached with their family history. The generational tradition becomes the responsible agent for the individual's religious identification and affiliation with schools of religious thought. Family tradition or family roots become the cornerstone of religious explanation instead of individual religious belief (Olson & Warber, 2008). Specifically, religious affiliation need not be correlated with religious commitment or religiosity. Harvey and colleagues, citing Putnam and Campbell (2010), observe that religious participation has been considered by scholars as a form of cultural capital,

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specifically, through the acquisition of social network and civic skills. Skills gained due to religious participation engender feelings of optimism and openness towards competing ideologies and encourage mental exploration. However, as a consequence of increased latitude, the individual might steer away from religion altogether and begin experimenting with nonreligious groups (Harvey, Story, Knutson, & Whit-Glover, 2016).

Religious Commitment

A third indicator within religiosity is religious commitment. Worthington (2003) defines religious commitment as the degree to which a person is invested or committed to a particular religion. It is an assessment of the level of adherence to that religion. Hadaway and Roof (1978) further add religious commitment is characterized by earnest participation among believers. Religious commitment is a common variable of interest in self-reports and survey (e.g. Pew Research Reports). Religious commitment is as a variable of interest for religion and spirituality scales. For instance, the Religious Commitment Inventory Index, or RCI-10 (see Appendix C), seeks to measure religious commitment, measuring the individual's willingness to donate to religious organizations and willingness to participate in religious networks or peruse religious material (Worthington, 2003).

Spirituality

In contrast to the tiered structure found in religion, spirituality is presented as a conglomerate of constructs, representing a departure from religion's notion of rigid definitions. Spirituality can be defined by themes and motifs (altruistic, connected) that reflect the attitudes a spiritual individual experiences or practices (e.g. altruism, connectedness). Unlike religion,

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Koenig (2019) notes spirituality is too broad a term to break down. To wit, Karakas (2010) contends over 70 different definitions of spirituality at work have been introduced, with no frequently accepted definition for spirituality. Spirituality has been described as an inner consciousness, a worldview plus a path, a sacred force, a unique search for inner personal development, and a process of self-enlightenment. Moreover, Hill and Smith (2003) conceptualize spirituality as the privatization of religion, arguing that spirituality more favorably perceived than religion, while religion tends to be viewed less favorably. Manifestations of spirituality may include prayer, meditation, and yoga; these elicit deeper awareness of the spiritual, achieve interconnectivity with others, and help attain a connection to a higher power. The spiritual believer is taught he or she is in a dynamic journey towards realized potential and is exhorted to remain mindful of his spiritual journey above and beyond his earthly one (Fry, 2003; Zellers & Perrwe, 2003)

Classic Spirituality Versus Modern Spirituality. Historically, there have been two different schools: classic spiritualists and modern spiritualists. Although spirituality is commonly associated with an absence of institution rigidity, some spiritualists seek confirmation for their beliefs inside the Christian Bible. This type of spirituality, known as classic spirituality, is grounded on the Biblical definition for “*pnuema*” as it appears in the Pauline epistles (Parsons, 2010). Classic spiritualists believe the meaning of life concerns a departure from the material, with a renewed focus on the spiritual. The larger subset of spirituality, known as modern spirituality, seeks to divest itself from traditional ecclesiastical contexts while advocating a deep and religious experience. Therefore, modern spirituality is the religious experience without the perception of dogmatic rule constraints (Parsons, 2010). Modern spirituality rests on a historical

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lineage spanning several decades. Fuller (2001) traces modern spirituality to a number of beliefs and schools including Unitarianism, theosophy-spiritualism, transcendentalism, and the New Age. Modern spirituality therefore features historical lineage (as do many religions), but it seeks to avoid the perceived stigma of an organized institution (Fuller, 2001)

Workplace Spirituality. Although spirituality has been explored for a number of years, workplace spirituality (WS) is still a new and growing field (Houghton, Neck, & Krishnakumar, 2016). Workplace spirituality has been defined as the sense of purpose or meaning found in work. General scales of spirituality that measure *meaningful work* dimension are said to capture aspects of workplace spirituality, in part, because *meaningful work* dimension explores the degree to which work contributes to the individual's journey towards a higher calling and the degree to which work-related output contributes to others around him or her. In sum, meaningful work operates under the assumption that the spiritual nature of humankind seeks to actuate change for a greater collective good (Saeed, Khan, Qadir, & Din, 2007). For example, these core tenets of spirituality are reflected in Ashmos and Duchon's (2001) Workplace Spirituality (

APPENDIX

Operationally, WS may be defined as a two-component stratagem that recognizes actions affecting the well-being of a society (horizontal component) and the connection between the individual and his/her God (vertical component). The horizontal component may be manifested through mission orientation, willingness to participate in community service, and an emphasis for a shared globally conscious mindset. The vertical component of WS may be manifested through employee moral support, prayer training, group discussion of religious literature (e.g. the

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Quran, the Bible, the Torah), and moments of silence before a meeting. A key aim is to achieve a moment of closeness between an employee and God (or other deity). Boeing, Intel, and Microsoft are among the corporations who have successfully implemented the vertical component of WS (Saeed et al., 2007). Further, research interest in WS has increased in part because of reported connections to spiritual well-being (SWB). Research has examined SWB as a predictor of hardiness in patients suffering from immune-deficiency syndrome (Carson & Green, 1992), as predictor of quality of life (Bredle, Salsman, Debb, Arnold, & Cella, 2011), and as a coping strategy in patients suffering from hemodialysis (Asayehs, Zamanian, & Mirgheisari, 2013).

Religion and Spirituality

The following section will discuss specific distinctions between religion and spirituality. To aid interpretability, distinctions that arise from construct definitions will first be discussed, resulting in a comparison analysis between religion and spirituality. Additionally, a definition for religion and a definition for spirituality will be stipulated, for this present paper.

Construct Distinctions

Religion is closely connected with teachings, dogmas, and ritual prayer. The specificity of religious teaching and dogma suggests religions belongs to a larger construct. A prevailing notion, advocated by many scholars of today, is that spirituality is that larger enveloping construct, wherein religion is categorized (Fry, 2003; Zellers & Perrwe, 2003). At its most foundational, one distinction brought upon by early observations by William James, maintains that spirituality is the personal and first-hand experience of religion, while religion is the second-

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hand experience (Saslow, Piff, Willer, Impett, & Keltner, 2013). Fry (2003) has additionally defined spirituality as the faith reflecting a relationship to a higher power or being. Frequently, the religious claim invokes the existence of heaven, paradise, or nirvana, while spirituality does not necessarily entail any of those places. Spirituality is a faith which delves into the nature and qualities of the human spirit, among these love, compassion, forgiveness, and joy. In comparison, religion orbits on faith claim from a declared tradition and institution (Fry, 2003; Zellers & Perrwe, 2003).

Several researchers have sought to re-conceptualize the distinctions between spirituality and religion within more familiar paradigms. For instance, Hill and colleagues (2000) distinguishes religiosity and spirituality by retooling the group norms-individual norms paradigm. In this definition, religiosity is religion-specific collective manifestation in contrast to the individually minded and personal articulation of spirituality. In contrast to established religions (e.g. Islam, Christianity), which are often characterized by practices and beliefs within a fixed institution, spirituality has been noted to incorporate anecdotal and experiential beliefs (Shafranske & Maloney, 1990). Organized religions and spirituality do share communalities, despite scholars agreeing they are distinct constructs. To this end researchers are increasingly calling for a closer analysis of the communalities, to the same degree of research interest devoted to the distinctions.

Stipulative Definitions

Scholars note it is essential to specify the meaning of words to ensure the successful outcome of a scientific or systematic inquiry. Thus, stipulative definitions are necessary elements

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of a well-focused research endeavor (Singleton, Mason, & Webber, 2004). The term *stipulative* refers to a definition that is functional contingent on the surrounding context and surrounding presented material. For the two predictors of this study, religion and spirituality, the following definitions will be used.

Definition 1: Religion is an organized set of beliefs, values and practices within an organized institution or framework (Jurgensmeyer, 2005; Neely & Mindford, 2008).

Definition 2: Spirituality is defined as the general awareness of the spiritual, transcendent and its implications as a way of life wherein a higher power is acknowledged (Neely & Mindford, 2008; Singleton et al., 2004).

RS will denote when both religion and spirituality are examined in the present study. The present study seeks to examine the predictive ability of both religion and spirituality on desired dependent variables.

Religious Beliefs

Religions are professed and practiced in over 230 countries around the world, with nearly 80% of the world's populations identifying with a religion (Pew Research Center, 2012).

Admittedly, the task of global analysis would prove improbable if not impossible. Five major religions of the world — Christianity, Islam, Hinduism, Buddhism, and Judaism (Ghazzawi, Smith, & Cao, 2016; Pew Research Center, 2012), ---are the largest by religious affiliation. As will be seen shortly, the religious teachings and beliefs of these five religions frequently conceptualize religion as a relationship or formal service to an all-powerful deity or pantheon. This deity expects a high moral standard and a high commitment to a religious lifestyle. This

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deity has clear expectation set for how believers should live their lives, render work, and express their attitudes (Epstein, 2002). What follows is a summary of major beliefs and practices of Judaism, Christianity, Islam, Buddhism, and Hinduism.

Judaism

Judaism originated as the religion of the ancient nation of Israel. The key component of Judaism is a long-standing ancestral covenant with God or *Yahweh*. Jews believe *Yahweh* spoke and revealed his divine character and divine law to the Jews 'ancestors. The Jews hold two sacred texts: the *Torah* (God's Teaching) and the *Mitzvot* (Commandments). Other texts that have carried great influence are the *Talmud* (Teaching), and the *Kabbalah* (received tradition). The Jewish scriptures emphasize the concept of *walking with God*, as a visual picture for the synchronicity between a righteous human in harmony *Yahweh's* commands; among those said who walked with God are Enoch, an ancient ancestor of the Jews, Methuselah, a righteous man who God imparted a life of 969 years, and Lamech who was the father of Noah.

Important symbols of Judaism include the following: a) the seven-branched candelabrum which symbolizes redemption, b) symbolic light manifested in the kindling of the Sabbath, c) the *Rosh Hashanah* which celebrates the rebirth of a new year, d) *Yom Kippur* or the Day of Atonement for which Jews maintain quiet prayer and introspection for 10 days, e) the *Pesach* or Passover which serves a celebration of the account of God delivering the Jews from the land of Egypt, an event known as the Exodus. Judaism is more homogenous and conceptually consistent than the Christian religion. However, competing theologies, known as the streams of Judaism, have risen. These include Reform or Liberal Judaism, Orthodox Judaism, Conservative Judaism, and Reconstructionism (Beverluis, 2000).

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Christianity

The deity of Christianity is the Godhead. Christians believe in the concept of the Trinity, a divine Godhead that shares equal divinity among three personages: the Father, the Son, and the Holy Spirit (Beverluis, 2011). Believers believe this triune God is revealed to humans in the Old Testament and New Testament, the major sections which compose the Bible. According to the Bible and long-standing Christian tradition, God equates himself to love, holiness, and perfection. God depicts himself as personally involved divine being who actuates in the world (Beverluis, 2000).

An echoing theme of Christian belief is that God wants to reveal his character to humans. To that end, the Bible describes the character of God, the heart of God, the actions of God, and the plan of God. God made a pact with Abraham and then a subsequent covenant with Abraham's descendants, the nation of Israel. Thus, nation of Israel is an important narrative figure in the Bible and maintains significance within Christian belief. Although the Christian need not be a descendant of the nation of Israel, by reading and understanding the God-Israeli narrative, the Christian learns the character of God in a vivid and practical way. Due to Christian kinship with Jewish tradition and the Jewish historical narrative, Christians may refer to God in the original Hebrew as *Yahweh* or sometimes as *Jehovah*.

Important practices within the Christian faith include the submersion of the body in water (*baptism*) as a symbol of repentance, the articulation of sinful misdeeds and thoughts (*confession*), the weekly communion with fellow believers (*church, assembly, or Catholic mass*), the direct enunciation of thanksgiving, confession, or private thoughts addressed to God (*prayer*), and the worship and adoration of God. Important beliefs the Christian holds include as

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follows: submission to what God commands (*obedience*), the presence of sin in all humans (*universal sin* or the *Fall*), the rescue of the Christian believer from hell and sin through the sacrifice of Jesus Christ (*salvation*), and a transformation of the individual's original nature to a nature that reflects virtue and godliness (*being born again*). Individuals who entrust Jesus Christ with their deliverance from their own sins, are said to be saved. The word Christian refers to any individual who has recognized their own sin and entrusted Jesus Christ to be their savior.

Christian believers are taught to operate in love and kindness, reflecting the life of Jesus Christ as recorded in the Bible. The promise given to the believer consists of access to heaven, instead of hell to which Christians are taught they were originally bound (Beverluis, 2011).

Islam

A monotheistic framework governs the beliefs and practices of Islam. The God of Islam is known as Allah, or the Alone God. Echoing similarities with Christianity, Allah reveals his character and will to a group of messengers or prophets who record the word of Allah. Among all prophets, the prophet Muhammad is specially revered because he was entrusted with Allah's final message. Two major pieces of literature serve the groundwork for Islamic beliefs and teachings: the *Qur'an* and the *Sunnah*. The *Sunnah* records the teachings and sayings of the Prophet Muhammad while the *Qur'an's* subject matter is considerably diverse, akin to the Christian Bible's mixture of narrative, prose, and religious teaching (Beverluis, 2000). Any and all who renders their will and life to the Will of Allah may be called a "Muslim." Unquestioned submission to the will and law of Allah is at the core of Islam. Believers maintain that obedience to Allah brings peace with Allah, and by extension, peace with all humans and creatures Allah created. Muslims believe that Allah created all living things; when Allah created humans, He

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imparted a conscience, intelligence, and reason to all humans. Believers are taught Allah gave the earth as inheritance to humans, and the free will to do good or do evil.

Muslims subscribe to six articles of faith, namely: a) Belief in One Alone God, Allah (attributed as Unique, Infinite, Transcendent, Creator, and Sustainer; b) Belief in the eternal life of Hereafter (*Al-Akhirah*); belief in angels as messengers of Allah; c) Belief in Revelations of God and the Books of God (which include the Torah, Psalms, the *Qur'an*, and the sayings of the Prophet Muhammad); d) Belief in human messengers or the prophets of God; e) Belief in the Decree and Plan of God (nothing exists outside Allah's plan). Muslims also believe in five distinct theological pillars (*Arkan al Islam*), namely the following: a) *Shahadah* or the statement of faith; b) *Salat* or five daily prayers; c) *Sawm* or fasting during the month of Ramadan; d) *Zakat* or sharing wealth to those less fortunate; e) *Hajj* or pilgrimage to Ka'bah, in Saudi Arabia (Beverlsuis, 2000).

Hinduism

In Hinduism, believers worship a supreme Being as the Father and Mother of all of creation. *Karma* is the responsible agent that explains the observed and unobserved changes in the world. Believers carve their own future and are rewarded in the afterlife through the process of reincarnation. Reincarnated animals associated with good deeds are reserved for believers who did good deeds; re-incarnation into an animal associated with misdeeds is the punishment. The goals of the Hindu believer are summarized in four distinct concepts: the *joy family* (artistic, sexual, and aesthetic joys), *the economic and social family*, the morality family (civic and law-abiding duties), and the goal of *salvation/liberation* (being united with God). Hindus hold two texts to be sacred: *the Vedas* and *Agamas*. *The Vedas*, consisting of *Rig*, *Yajur*, *Sama*, and

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Atharva, are the divinely revealed messages of wisdom for all humans. These scriptures teach God from multiple perspectives and instruct that the multiplicity of God is merely multiple accounts of the same God. Hindus believe that salvation is accomplished through life experience. The end goal is to unite with the supreme Reality or Brahman. The second text, Agamas, are supplemental scriptures that further explain and detail union with God (Beverluis, 2000).

Buddhism

Buddhism traces its origins to the Northeast of India. Its principal figurehead Prince Siddhartha Gautama is said to have experienced a moment of enlightenment and he subsequently disseminated a teaching of the middle way; the teaching of the middle way exhorts followers avoid any extremist position. A second major teaching is the contingent genesis, which explain life as the product of events dependent on an earlier operational antecedent (Beverluis, 2011). Buddhists appraise a series of forces, known as *karma*, to be crucial guidelines that help navigate life. First, they recognize the force of *karma*, an auto-correcting force in the world. Second, they recognize *klesa* which are the afflictions of this world. The cumulative result of afflictions are known as *dukkha*, and the ever-changing reality of the human personality as *anatma*. As of 2000, there were over 250 million Buddhists in the world, in the United States, 5 million alone. Schools within Buddhism include zen, Indian Buddhism, and Tibetan Buddhism (Beverluis, 2000).

Religion Scales

Religion may be assessed through self-reports of church attendance frequency (Harvey, Story, Knutson, & Whitt-Glover, 2016). Although religious affiliation may be readily assessed, the factors involved in affiliation (i.e. family history, culture, or personal preference) poorly

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transfer to measures of religious commitment. Two main approaches by which religion is measured, are the assessment of the religious belief subsystem and assessment of a religious behavioral subsystem. Kutcher and colleagues (2010) note several scales focus on actuary processes and neglect attitudes and beliefs. Research associated with measurement of belief suggests beliefs subsystems may be measured through a variety of mechanisms, scales driven by theory (e.g. intrinsic motivation) or self-reports from individuals.

An evident characteristic of religion scales is high length-related variability between scales. The length of religion scales lies contingent on the religion dimension to be measured (e.g. religious affiliation, religious commitment), the stated goal of the scale, and the particular religion in question (Hill & Wood, 1999). Thus, these factors inform how exhaustive or concise a scale might run. Faith at Work Scale (see Appendix D) and Attachment to God (see Appendix E), for instance, are more concise scales, while Ehsan's Islamic Religiosity Scale (see Appendix F) is much more exhaustive, numbering over 60 items (Rezapour, 2016; Kent et al. 2016). Some scales may be as brief as four items long (e.g. Honoring God at Work [see Appendix G]). The following sections examine religion scales in closer detail, specifically, considerations for scale development, dimensions the scale purports to measure, and scale reliability analyses. All scales discussed below were in studies included in the meta-analysis of the present study.

Islamic Work Ethic Scale

Ali's (2003) Islamic Work Ethic (IWE; see Appendix H), which was used to measure the impact of Islam on job satisfaction among university students in Pakistan, is a 17-item instrument measuring economic, moral, social, and psychological dimensions of Islamic

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religiosity. Unlike Protestant Work Ethic, Islam Work Ethic undertakes an Islamic perspective, enshrining work-related effort, transparency, and generosity as pillars of Islam. The scale was designed to be compatible with all schools of Islamic thought, save the Jabria School. Validation studies reveal a high correlation between IWE and individualism and a strong correlation to job satisfaction and organizational commitment. Some items of IWE include the following:

“Cooperation is a virtue in work”; “Laziness is a vice”; “Work is an obligatory activity for every capable individual”, “Creative work is a source of happiness and accomplishment” and “Those who do not work hard often fail in life.”

The items are assessed on a 7-point Likert measure with a reported Cronbach’s alpha of .93. (Ali & Al-Owailhan, 2008). IWE was based on the important teachings and religious pillars found in the Quran and the Sunnah of the Prophet Muhammad. These two texts disseminate broad lifestyle guidelines for private and public behavior. Analyses by researchers suggest that IWE reliably identifies behaviors associated with teachings of Islam; an important notion is that Islam is an unchanging way of life, affixed to universal and immutable principles to the believer. Thus, scales of Islamic religiosity tend to exhibit less variation despite generational changes (Murtaza, Abbas, Raja, Rocques, Khalid, & Mushtaq, 2016).

Islamic Religiosity Scale.

Another Islamic scale, Ehsan’s Islamic Religiosity Scale (see Appendix F), consists of nearly 70 items grouped in 4 subscales. The scale assesses respondents on a 5-point Likert scale with reported Cronbach alpha reliability, between .85 and .91. The scale dimensions include religiosity, religious disorganization, religious pretentiousness, and hedonism. IRS was utilized

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to measure the impact of Islamic religiosity on levels of job satisfaction in an Indonesian industrial center (Amaliah, Aspiranti, & Purnamasari, 2015).

Attachment to God

Religious commitment is a religiosity indicator that has seen renewed interest in scale development. While religious affiliation is often dichotomously conceptualized as the presence or absence of affiliation, various measures of religious commitment better delineate the degree to which an individual will commit to a teaching or behavior along a continuum. For example, Attachment to God scale (AG; see Appendix E), developed by researchers from Abilene Christian University, measures the degree to which a person believes they are near to God or a Supreme Being (Kent, Bradshaw, & Dougherty, 2016; Houghton & Jinkerson, 2008). Items on the scale include “God knows when I need support,” and “God seems to have little to no interest in my personal affairs.” Notably, these items offer information windows of a degree of religious belief, above and beyond a competing scale item “I believe in God.” Overall, items seeks to capture several tenets including the individual’s belief in all-knowing or omniscient God, the belief in a God who care personally about his or her problems, belief that God anticipates problems, and belief that the affairs of the person are an important priority to God. An affirmative evaluation of these items indicates that the individual believes in God’s omniscience, holds that God cares for him or her, and that daily activities matter to God, further suggesting the individual is likely to draw greater emotional comfort and relief, through their faith. Some items on Attachment to God scale are reverse coded.

To construct AG (Rowatt & Kirkpatrick, 2002), researchers conducted a confirmatory factor analysis of relevant items and identified two latent constructs, avoidance and anxiety, with

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a factor loading of .92 and .80 respectively. Items on the AG scale include the following: “God seems important to me” for an avoidance dimension and “God’s reactions to me seem to be inconsistent” on an anxiety dimension.

Hassan’s Protestant Work Ethic

Hassan (1937) sought to develop a scale that would capture aspects of PWE. In Hassan’s (1937) Protestant Work Ethic scale (see Appendix A) seven dimensions of the Protestant Work Ethic (PWE) are measured, including rational scientific attitudes towards nature, denial of impulse expression, method and discipline lifestyles, work as a calling, and a rational pursuit of duty. Items found on the scale include the following: “*Every man has a responsibility to do the best work that he can*”, “*Good things are worth saving for,*” and “*It is a great comfort to know that God never fails, even when everything seems to go wrong.*” The same study sought to show a multiplicity of facets of PWE as evidenced by the development of a 47-item instrument, and subsequent validation study.

Religious Commitment Inventory-10

RCI-10 (Worthington et al., 2003; see Appendix C) is frequently used throughout the psychological and medical sciences (Ghazzawi et al., 2016; Dean, Marshall, West & Winston, 2017; Dozier, 2017). The research prominence of RCI-10 may be attributed, in part, to high test-retest reliability and research flexibility (Worthington, 2003; Ghazzawi et al. 2016). When dealing with multiple religions, for instance, RCI-10 has been utilized in studies that seek to isolate the role of faith and spirituality (Dean et al., 2017). While it purports to measure religiosity, RCI-10 avoids specificity to any one religion. Items found in RCI-10 include, “*I often read books and magazines about my faith*”; “*I make financial contributions to my religious*

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organization; "I enjoy working in the activities of my religious affiliation." In the research, RCI-10 has seen multiple uses for religion inquiry. Vodell (2011) used RCI-10 to explore the relationship between religion and job satisfaction among members of an Australian faith-professing school. In a Southern California sample ($N = 711$), Ghazzawi and colleagues (2016) ran a study wherein RCI-10 was used to measure religious commitment in connection with job outcomes. In addition, Dean and colleagues (2017) measured religious commitment with RCI-10 in their study that examined religion and spirituality on outcomes of job satisfaction and organizational commitment.

Spirituality Scales

The themes of *meaningfulness, the transcendent, purpose, and community* are prominent motifs embedded in scales of spirituality (Karakas, 2010; Ashmos & Duchon, 2000; Saeed et al., 2007; Petchsawanga & Duchon, 2012; Milliman, Czaplewski & Ferguson, 2003). For instance, the themes of *meaning* and *purpose* are enshrined in Ashmos and Duchon's (2000) delineation of workplace spirituality (see Appendix I), consisting of *meaningful purpose, inner life, and community*. Other spirituality and non-religious scales, despite their namesake, include the Duke Religion Index and the Spiritual and Religious Involvement Scale (SRI). The Duke Religion Index is a five-item questionnaire examining organizational religiousness, non-organizational religiousness, and intrinsic religiousness (Banin, Suzart, Banin, Guimaraes, & Mariotti, 2013). The Spiritual and Religious Involvement Scale (SRI) segments religion into four dimensions: public religious involvement, private religiousness, subjective religiousness, and four types of prayer (Ai, Park, & Shearer, 2008; Poloma & Gallup, 1991). What follows is a closer examination of the spirituality scales present in studies for meta-analytic inclusion.

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Faith at Work Scale

Lynn's Faith at Work Scale (FWS; see earlier Appendix D) assesses constructs which may be categorized within spirituality. Specifically, FWS measures spirituality of individuals at work for the following dimensions: meaning, community, holiness, and giving. Items include the following: "I pursue excellence in my work because of my faith", "I view my co-workers in the image of God" and "I believe God wants me to develop my abilities and talents at work." Categorization under a spirituality label is not uncontested, for some have argued FWS argues aspects of a religious nature. For instance, researchers have argued FWS is sufficiently in harmony with Christian, Catholic, and Jewish faiths to nominate it a religious *Judeo-Christian scale* (Walker, 2013). FWS has been used in the literature to explore both spirituality and religion. For instance, a study by Neubert and Hallbesleben (2015) explored the relationship between spiritual calling, job satisfaction, and organizational commitment. Whereas, a study by Walker (2013) examined the religious faith on outcomes of job performance and job satisfaction.

Spiritual Well-Being Scale

The Spiritual Well-Being scale (SWB; see Appendix J) is designed to measure general aspects of spirituality. One of the premises of SWB is the notion of a person's spiritual well-being as an underlying state for which the individual may continue to further (Ellison, 1983). Items sourced from the Existential Well-Being subscale of SWB include the following: "I don't know who I am, where I came from or where I'm ongoing", "I feel that life is a positive experience", "Life doesn't have much meaning", and "I believe there is some real purpose for my life." SWB was used in Kutcher et al.'s (2010) study that examined spirituality on outcomes of stress, job attitudes, and organizational citizenship behavior.

JAREL Spiritual Well-Being Scale

Another commonly used scale is the JAREL Spiritual Well-Being Scale (Hungerlmann et al., 1996; see Appendix K). The JAREL scale has seen use in a variety of settings including in palliative care where researchers sought to measure spirituality and job satisfaction among hospice team member (Clark, Leedy, & McDonald, 2007). The JAREL is a 21-item measure assessing four dimensions which are as follows: composite score for Spiritual Well-being and three sub-scores for Faith/Belief, Life/Self Responsibility, and Life Satisfaction/Self Actualization. Items found on the scale read as follows: “*Prayer is an important part of my life*”; “*I set goals for myself*”; “*I prefer that others make decisions for me.*”

Spiritual Intelligence Self Report Inventory

An important construct embedded within spirituality is spiritual intelligence (SI). Spiritual Intelligence Self Report Inventory (SISRI; see Appendix L) conceptualizes SI as a composite of the following four dimensions: critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion. Critical existential thinking refers to ability formulate thoughts on the purpose of the individual's existence. Personal meaning production is the capacity to reframe physical and mental events with personal meaning. Transcendental awareness refers to the individual's recognition of patterns of the self, of others, and evaluating one's relationship to the physical world. Finally, conscious state expansion is defined as the ability to experience spiritual states of consciousness at will. Respondents answer on a 4-point scale. The scale reports a Cronbach alpha of .95 for all items. SISRI was subject to rigorous validation process and was construct validated using structural equation modeling techniques (Anbugeetha, 2015).

Alternative Approaches

Alternative approaches to scale development consist of writing items which measure respondents' self-described spirituality in addition to inquiries of their religiosity. For instance, National Institute of Health/Fetzer Multidimensional Measurement of Religiousness Spirituality (MMRS) asks the following: "To what extent do you consider yourself a religious person?" and "To what extent do you consider yourself a spiritual person?" MMRS is comprised of 3 subscales which examine the following three dimensions on 1 to 5 Likert scale: public religiosity (church attendance), private religiosity (private prayer, watching religious TV programming), subjective religiosity (personal appraisal) (Balboni, Bandini, Mitchell, Epstein-Peterson, Amobi, 2015).

Conservation of Resources

Early formulation of religion as a resource were pioneered in William James's *The Varieties of Religious Experience*. Ensuing from James's theories of pragmatism, the utility of religion is dictated by the *role* it serves in surrounding events and circumstances an individual does encounter (Baucal & Zittoun, 2013). Through this framework, religion has been re-contextualized as an observable resource functional to a person's available supply to react to life stressors. The role of religion as valuable resource for detracting stressors has been noted in previous studies (e.g. Kutcher et al., 2010). As a consequence, individuals are able to draw from their faith when reacting emotively to unexpected life tragedies (Gilbert, 1992).

Scholars theorize religion as a lexical and socio-cultural resource is operational during community engagement in spoken dialogue, and operational in self-dialogue and private mediation (Baucal & Zittoun, 2013). Researchers assign the following designations to the

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function of religion relative to its impact: the resource positively enhances, the resource bears no impact, and the resource is delaying recovery/outcome (Gilbert, 1992). Religion has been observed to impact personal values, and personal narratives as well (Baucal & Zittoun, 2013). Although the functions of religion have been abstracted to a variety of disciplines (e.g. religion contributing emotional resources in patient care), more recently Baucal & Zittoun (2013) suggest religion may be a valuable resource in group facilitation, mitigation of trauma related to obstacles in life, and deeper apprehension of the cultural landscape.

In industrial-organizational psychology, the notion of resource management is described as the maintenance of individual resources. Such maintenance describes the composite framing through which an individual responds to the ebb and flow of workplace stressors (Grandey & Cropanzano, 1999). Consistent with Conservation of Resources theory (COR) proposed by Hobfoll and colleagues (1989), an individual's actions are motivated by a desire to conserve or acquire resources. A key proposition of COR is the primacy of loss aversion. Within the framework of COR, individuals are losing and gaining resources, with a preference towards keeping acquired resources.

Job resource-demand (JRD) theory is another theory concerned with management of resource. JRD assumes that resources are an integral element in the workplace. Within JRD, job resources are defined as any element that aids the employee in achieving workplace goals; job demands are any workplace-related physical and mental stressors. In optimal scenarios, JRD proposes individuals would accrue job resources and reducing workplace-related demands (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Accrued, unmonitored job demands have significant consequences, including mounting stresses and pressure which result in increased

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likelihood of burnout and desire to quit the job. The conglomerate net result associated with reduced physical and psychological well-being is known as burnout. The mitigation of burnout is a key topic evidenced by the persistent research interest in the literature (Neville & Cole, 2013; Lebensohn et al. 2013). Burnout is associated to a number of negative, including absenteeism (Toppinen-Tanner, Ahola, Koskinen, & Vaananen, 2009), decreased work performance (Taris, 2006), job turnover (Leiter & Maslach, 2009), likelihood of severe injury (Ahola, Salminen, Toppinen-Tanner, Koskinen, & Vaanen, 2014), and insomnia (Armon, Shirom, Shapira, & Melamed, 2008).

A widespread review of studies suggest a positive correlation between life satisfaction and job satisfaction (Clark, Leedy, McDonald, & Mueller, 2007). Ellison (1991) discovered that variables of religiosity account for between 5 to 7 percent of the variance in life satisfaction. Additionally, the medical literature and palliative care contend spiritual well-being is connected to a person's degree of job satisfaction and life satisfaction. (Clark, Leedy, McDonald, & Mueller, 2007).

In summation, drawing from COR theory and JRD theory, individuals leverage religion as a resource to cope through difficult work experiences, pressures, and high-stress scenarios. The resource contributions of religion apply to an individual's quality of social support, the amplification of his or her network of friends, and increased likelihood to remain composed through difficult work experiences, finding motivation through their faith. Accrued job resources help buffer the negative effects brought upon by increased job demands. A discussion of the three dependent variables for the present study now follow, namely job satisfaction, job performance, and organizational citizenship behaviors.

Job Satisfaction

Occurring as the dependent variable in over 1200 research studies, job satisfaction is an incredibly frequent theme in the psychological literature, particularly in industrial-organizational psychology (Staw, 1984; Kinicki, McKee-Ryan, Schriesheim, & Carson, 2002). Today, an extensive cross-domain body of research has examined the relationship between job satisfaction and various measures including organizational commitment (e.g. Mattieu & Zajac, 1990), employee withdrawal (e.g. Griffeth & Hom, 1995; Kinicki et al., 2002), and employee turnover (Porter et al. 2017). Research interest for job satisfaction can first be traced back to the Hawthorne Studies in the 1930s (Judge et al. 2001). Thereafter, Brayfield and Crockett (1955) completed a milestone review of job satisfaction, in which job satisfaction was defined as a person's attitudes toward the workplace (Brayfield & Crockett, 1955). Two decades later, Churchill (1974) developed operational definitions for job satisfaction wherein he delineated the following five major components: supervisors, the job, co-workers, compensation, and promotion opportunities.

Popular scales and indices measuring job satisfaction include Dunnett's Job Satisfaction Inventory, the MSQ, the MJS (Measure of Job Satisfaction), JSS (Job Satisfaction Survey) and the JDI (Job Descriptive Index) (Rezapour, 2016; van Saane, Sluiter, Verbeek, & Frings-Dresen, 2003). When developing job satisfaction scales, researchers may anchor their scales on previously validated scales or theories. For instance, the Dunnett's Job Satisfaction Inventory is a theory-driven 36 item scale drawing from Herzberg's motivation-hygiene theory. Participants mark answers on a 7-point rating scale (Rezapour, 2016). A frequent scale is the Minnesota Satisfaction Questionnaire Short form, which itself is a condensed version of the original and

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much longer MSQ (Lester and Bishop 2000; Ghazzawi et al. 2016). The MSQ was used in Ghazzawi's study of 741 businessmen (2016) ; similarly, Dean and West's self-report study (2017) of job satisfaction among 120 participants also used the MSQ.

Research by Green and Elliot (2010) examined the relationship between religious affiliation and happiness among Catholic, Christian, other religion, and no religion. Another study conducted a survey of co-worker, supervisor-related, and work-related satisfaction among religious individuals and secular individuals. In comparison to respondents who self-described as secular, the study reported that respondents in the Christian sample scored higher mean values in their appraisal of their satisfaction with coworkers, supervisors, and work. (Houghton & Jinkerson, 2005). Additionally, in an analysis of happiness, self-reports also show respondents in the Christian sample described being happier a greater percentage of the time (74%) than respondents in the secular sample (70%).

Researchers have sought to explain the mechanism driving the relationship between religion and job satisfaction. Karakas (2010) citing Ghazzawi and Smith (2009) suggests that religion might be influencing three of the four factors theorized to influence levels of job satisfaction. These factors include the following: individual values, social influence, and general life satisfaction. Additionally, researchers argue that religious assemblies and congregational mediums represent a social influence component which is responsible for influencing values which subsequently influences attitudes. Growing body of research observes a relationship between friendship networks and levels of job satisfaction. Specifically, individuals who report high levels of life satisfaction and job satisfaction tend to have acquired friendship networks and acquaintances who equally report high levels of life satisfaction and job satisfaction. This

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suggests that life satisfaction and job satisfaction are closely related; one theorized mechanism is that religion affects job satisfaction through life satisfaction (Karakas, 2010). The connection between religion and job satisfaction is compelling, and exploration of this relationship may shed light on the relationship to life satisfaction and happiness. Possible mechanisms driving the relationship between RS and job satisfaction are now discussed.

Social Networks

Durkheim (1951) theorized that the central component of religion is the social element. The social component of religion transpires in prescribed locales of worship, prayer, and fellowship, including churches, cathedrals, synagogues, and mosques. Growing body of researchers advocate religious group membership offers important resources to individuals. Ellison and George (1994), for instance, argue that an individual who attend church extricate a substantive amount of comfort from knowing they are surrounded by like-minded individuals. Other studies have suggested self-reports of intimacy with God could explain the difference in life satisfaction evaluations. While solely focusing on the congregational aspect of religion demonstrates improvements in subjective well-being, other studies have shown a strong effect of private internalized expressions of religion (e.g. frequent prayer) on life satisfaction outcomes (e.g. Ellison, 1991; Pollner, 1989). Moreover, Koenig and colleagues (1999) report frequent church attendance is correlated with lower mortality rates, while higher mortality rates were associated with those who frequented church less. The effect was shown to be significant after controlling for demographic, health, and social connection variables; the effect was weaker in men but stronger in women. A reduction in mortality might be associated with a reduction of dysfunctional behavioral patterns, leading to increasing levels of subjective well-being (SWB).

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Moreover, church-related prayers groups and fellowship groups provide valuable resources ensuring individual can cope with life stressors and job stressors. Prayers group and fellowship groups empower individuals, by providing an outlet through which they can voice their troubles. Additionally, prayer groups and fellowship groups promote an environment in which individuals are heard and supported (Kutcher et al., 2010).

Social Support

Social support may be defined as the recognition of a perceived need and provision of help toward that need (Salsman, Brown, & Brechting, 2005). McKimmie and colleagues (2009) argue social support may be categorized as either instrumental support or emotional support. Instrumental support is concerned with the delivery of practical help and counseling. Emotional support is concerned with listening, sympathy, and caring. Researchers have noted additional facets of social support, including social integration, utilization of support, and support quality (Sherkat & Reed, 1992). Social integration refers to the number of contacts in a network who can be described as friends and family. Utilization of support refers to the method by which the support is manifested (e.g. confiding in friends). Lastly, the quality of support is defined as the impact the support achieved for the individual or set of individuals (e.g. to endure an emotionally fraught experience) (Sherkat & Reed, 1992). In the workplace specifically, social support takes a strong collegial-based characteristic. A study by Harris and colleagues (2007) sought to show the relationship between workplace social support and job satisfaction. The study identified four elements of workplace social support: collegial support, task support, coaching, and career mentoring. The study concluded that the four elements account for 17% of the variance in job satisfaction (Harris, Winskowski, & Engdahl, 2007; Dozier, 2017

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Social Networks

When comparing the impact of religion or spirituality on job satisfaction, social component is a prominent feature of religion, but decidedly less so of spirituality. Scholars, for instance, maintain spiritual individuals are better categorized under an individualistic paradigm. (Hill, Paragament, Hood, & McCullough, 2000). In contrast, the social component found in organized religion suggests that religious individuals might experience higher levels of job satisfaction, in comparison to individuals who identify as solely spiritual. Studies report religiosity is closely connected with increased self-efficacy and self-esteem (Kutcher et al., 2010). Additionally, religious individuals report stronger social networks than non-religious individuals (Martinson & Wilkening, 1983; Kolodinsky, Giacalone, & Jurkiewicz., 2008). Institutionally, the assembly of believers in a traditional church gathering is a prominent pillar both Christianity, Judaism, and Islam (Beverluis, 2011). Therefore, the exchange of ideas that may be found in churches might facilitate a re-appraisal of work-related stresses; additionally, exchange of ideas in church incline individuals to perceive the scenarios with greater perspective and be more likely to overcome them.

Further, research by Kolodinsky and colleagues (2008) observes that individuals who embrace strong friendship network are more likely to reframe negative work experiences. Religious individuals, who embrace social networks which are borne from their religion, accrue greater ability to contend with difficult life circumstances. Notably, a substantial predictor is the strength and size of a friendship networks. Studies report that the strength of a religious social network in particular is associated with more effective diffusing negative work experiences;

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however, smaller weaker religious networks are not as effective in quelling job-related negative affect (Kolodinsky et al. 2008; Martinson and Wilkening, 1983; Ghazzawi et al., 2016).

Religion also acts as a valuable coping resource, especially as manifested counselling sessions, group studies, and topical workshops (Kutcher et al., 2010). The church, mosque, or synagogue environment represents a wealth of psychological coping resources. Thus, the experience and attendance of church or other similar congregational gatherings might bring life experiences into a more normalized perspective. Research has shown for instance that religious faith helps people cope with traumatic situations than those with no faith. To wit, a study by Proffitt and colleagues (2007) examined effectiveness of religion-based coping strategies in an experiment where participants reported experiencing a difficult life event. The results showed that the religion coping strategy positively affected post-traumatic growth and positively affected subjective well-being. Lim and Putnam (2010) further add that most studies have a positive link between religious involvement and an individual's well-being. This has been evidenced by a meta-analysis of 28 studies, which concluded an overall positive association between religion and subjective well-being.

Specific religions not only encourage believers to fellowship together, but the concept of unity is deeply rooted as a core theological pillar. For instance, within Christian and Catholic practice, the religious practice of baptism stylizes the union of the individual joining the larger body of believers, by being submerged underwater (Blair, n.d.). In summary, religions contains the group-membership and resource-related components that would explain higher prediction of job satisfaction than a generalized form of spirituality. The members of a religious faith are

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likely to provide emotional and social support to the individual, allowing the individual to deal with job challenges more resiliently (Ghazzawi et al. 2016). Thus, religion and religion-specific scales might be more predictive of job satisfaction levels than scales measuring general forms of spirituality. The following hypotheses are presented:

***Hypothesis 1a:** Both religion and spirituality (RS) are positively correlated with job satisfaction.*

***Hypothesis 1b:** Higher levels of job satisfaction are predicted when measured by scales that are more specific to organized religions than general spirituality scales.*

Job Performance

Job performance is a central theme in the industrial-organizational psychology literature. It can be defined as the actions, behavior and outcomes associated with organizational goals in which employees are engaged (Viswesvaran & Ones, 2000). Because studies have found that job satisfaction is a predictor of job performance (Wright & Cropanzo, 2000), the manner in which religion contributes to job satisfaction might likewise apply to facets associated with job performance (e.g. task performance). Therefore, the downregulation of stress identified in practicing individuals also promotes the individuals' ability to be productive (Duchon & Plotman, 2005) and in turn, aid their ability to achieve organizational goals.

Researchers have noted a connection between task-related diligence and religion. Brotheridge & Lee (2010) coined the expression "hands to work, heart to God" to underscore the relationship between reverence given to work, proportional to the reverence to the individual's religious deity. Consistent with organized religion's view of work, studies have looked at

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manifestations of general spirituality on outcomes of task performance. For example, Karakas (2010) detailed the relationship between workplace spirituality and employee performance and organizational effectiveness. This study suggested spirituality facilitates the employee in identifying new goals. Despite the growing acknowledgement of the benefits or religiosity in the workplace, some researchers have noted the possibility for the misuse of spirituality or religion at work. They argue that religion or spirituality should be the end goal itself and caution manipulating managerial techniques (Karakas, 2008). Additionally, religion provides facilitating resources that impact job performance, by way of increased self-efficacy. For instance, a study by Sherkat and Reed noted significant effect of church attendance on outcomes of self-efficacy, suggesting that employees who attend church are more likely to confidently self-appraise their own skills, thereby facilitating resources to perform on the job.

Job Motivation

Researchers have proposed that religion might be a motivator for the individual across activities they might engage (Ghazzawi et al., 2016; Martinson & Wilkening, 1983). Karakas (2010) analyzed the relationship between workplace spirituality and two criterion, employee performance and organizational effectiveness. This study found workplace spirituality improved employee performance. As a motivator, religion drives the energy and willingness to do work. Drawing from Model Minority theory, religion might be the underlying common denominator under which an individual identifies and seeks to bring good repute to his religion. Peterson (1966) first coined the term “model minority” to describe the emergent themes in popular culture in which Asian Americans were portrayed as a minority successfully making headway towards the American dream (Wong & Halgin, 2006). The label was intended to highlight the

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accomplishments of Japanese Americans and herald them as exemplars of minority success.

Therefore, the individual desires to reflect their best work, believing that failure to reflect best work introduces negative repute to their religious credence and affects the likelihood that others positively perceive their religious faith.

Coping Mechanism

Similar to the theorized role on outcomes of job satisfaction, coping mechanisms might be an explanation that drives the relationship between religion and job performance. Specifically, studies have found the predisposition for proactive support is strongly associated with decreased psychological distress (Salsman et al., 2005). Lepore (1992) theorizes that reduction may be explained by the buffering effect of social support on negative social conflict. Studies have looked at the effect of social support on well-being (Sherkat & Reed, 1992). Sherkat and Reed (1992) observed a significant increase in self-esteem due to religious participation. Moreover, religion may positively influence an individual's self-esteem and self-efficacy, through prayer to God and relinquishing control of a life-related event to God or other Supreme Being. In Christian circles, this is recognized as a statement of hope ("Jesus take the wheel"), as an injunctive ("let go, let God"), and as a figure of speech ("letting go of the helm.") The increased mental-related and social-related coping resources religious individuals experience, through faithful participation weekly gatherings and fellowship, avail them with resources for stress attenuation. Studies by Pardini and colleagues (2000) suggest individuals with higher levels of religiosity and spirituality reported positive life-orientation, a higher resilience to stress, and increased perception of social support.

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Research has identified a link between religion and reduction of workplace stressors, (Kutcher, Bragger, & Rodriguez-Srednicki, 2010) suggesting that religion might help in coping and mitigating negative work experiences. Studies have shown an association between religious social networks and downregulation of negative work experiences (Kolodinsky et al. 2008; Martinson and Wilkening, 1984; Ghazzawi et al. 2016). Further, employees who report high degrees of religious commitments are more likely to report stronger emotional health. Moreover, studies suggest the free exercise of religion within the workplace spurs productivity (Duchon & Plotman, 2005). Replenishing a person's available emotional and spiritual resources is conducive to higher likelihood of job satisfaction and job performance.

Several studies have found relationships between religion and spirituality and reduction in blood pressure, lower overall mortality, and reduction in reported rates of coronary disease and suicide (Salsman, Brown, & Brechting, 2005). Burnout, a net outcome of unmonitored job demands and insufficient job resources, is associated with decreased physiological health, including uptake in rates of coronary heart disease (Toker, Melamed, Berliner, & Zeltser, 2012), and accelerated aging (Ahola et al. 2012). Consistent with Conservation of Resources theory (1989), reduction of negative work experiences would increase available psychological resources for work, increasing throughput and efficiency. In summary, religion contributes to task and job productivity because it enhances the desire for individuals to render work that reflects well on their religion; additionally, studies suggest religious individuals and stress-related reduction. Therefore, religion-specific scales are likely more predictive of higher levels of job performance than scales measuring general spirituality. The following hypotheses are presented:

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Hypothesis 2a: Both religion and spirituality (RS) are positively correlated with job performance.

Hypothesis 2b: Higher levels of job performance are predicted by scales that are more specific to organized religions than general spirituality scales.

Organizational Citizenship Behavior

The term 'organizational citizenship behavior was first introduced by Organ and colleagues to express employee's attitudes through an action conduit (Tepper, Lockhart, & Hoobler, 2001). OCBs are behaviors judged to be purposeful. According to Brief and Motowidlo (1986), OCBs are grouped into distinct categories: altruism, conscientiousness, sportsmanship, courtesy, and civic virtue (Tepper, Lockhart, & Hoobler, 2001). The pioneering efforts by Spreitzer and Sonenshein have yielded a novel approach in discussions of behavioral norms. Spreitzer and Sonenshein (2004) borrowed from statistical definitions of deviance and posit that altruistic behavioral deviance referenced to established behavioral norms can be construed as positive deviance

. Still yet, Spreitzer and Sonenshein (2004) note that positive deviance is not equivalent to corporate social responsibility (CSR). Measures of CSR prioritize descriptions of the community-based relationships and may implement a measure of overall reputation (e.g. the KLD Index). OCBs are associated with pro-social behavior and pro-social gestures. Literature in social psychology by Krebs (1970) links extraversion with pro-social behavior (Smith, Organ, & Near, 1983). Research has noted several factors that influence this pro-social helpful behavior including mood alterations, environment, and task interdependence. Smith and colleagues (1983)

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note that these social exchanges are often influenced by norms of reciprocity, upon which polite or helpful gestures may be expected.

Characteristics of Religious Behavior

Balboni and colleagues (2015) note the God as described in the Christian Bible demands humility, servanthood, and self-effacing demeanor. Moreover, Christianity emphasizes the principles of ‘altruistic love’ (Ghazzawi, et al. 2016; Dean, West & Winston, 2017; Luke 6:31), respect for authority (Romans 13:1-2), the obedience to “earthly masters as unto Christ” (Ephesians 6:5; King James Version). Islam, for instance, teaches the fair treatment of employees, as if God were watching (Al-Qazwini, 1999). Buddhism teaches harmonious living and working towards a common goal (Rich, 2007). For Judaism, the principle of diligence and judicious time management is of seminal cultural and religious importance (Ghazzawi, 2016; Proverbs 21:5). Religion introduces regulation of lifestyle and calibration of optimal individual behavior (e.g. quitting alcohol) (Kutcher et al., 2010). Frequently, this reduces environmental stressors; but this may also promote convergence to a moral standard of civic behavior.

Gyeyke & Salminen (2008) describe a religious individual to be honest, polite, loyal, and helpful. Additionally, religious people have been described as hard working, industrial and law-abiding (Saraglou et al. 2004; Levy, 1986). In a study by Lodi-Smith & Roberts (2007), psychological religious investment was strongly correlated to agreeableness, but weakly related to conscientiousness. This might suggest that religious people are docile to government authority, sensitive listeners to their community’s goals, and egalitarian and considerate in the way they approach others, aiming to be likeable. Further, religions have been associated to higher levels of community and pro-social activity. In Gyeyke & Saliminem’s study (2008) surveyed

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Christian, Muslim, and followers of Traditional African Religion on their self-reported activity in organizational citizenship activities. For all three religions there was indication of high levels of participation in citizenship activities. If individuals identify within a specific religion, a stronger likelihood of active involvement in pro-social events benefitting community and local government exists for that individual.

The studies report a correlation between religious individuals and pro-social activity; in addition, reports from religious individuals mention espousal of attitudes of civility, respect for authority, and social amiability. Personality and values theory posits that personality and values are predictors of behaviors in organizations and predictors of work attitudes. Group theory suggests that an individual's behavior is strongly impacted by membership in reference groups, which consist of demographic groups to which the individual aspires and seek to model. Studies have noted both religious memberships and reference groups drive similar behavioral and attitude change. Researchers have also noted group norms and individual roles within a group have a strong effect on member behavior; it is therefore likely that religious membership, which operates along similar assumptions of group dynamics, impacts behavior and attitude to an equal degree (Chusmir & Kosberg, 1988).

Characteristics of Spiritual Behavior

Koenig (2008) notes the defining characteristic of spiritual people is gratefulness, social-connectedness, and harmony. A corollary of these arguments is that spirituality advocates for a very specific state of mind, devoid of depression, anxiety, and daily disturbances (Koenig, 2008). One of the many symbolic figureheads in spirituality, the Dalai Lama defines the behavior of the spiritual person as behavior demonstrating love, compassion, tolerance, responsibility, and

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harmony (Lama, Norman & Wong, 1999). Drawing from these two operational definitions, it is probable that spiritual people might err on the side of caution and be less willing to engage in community activities and altruistically driven initiatives if they believe engaging in these activities offends another person or if the net result could incur disharmony with others. Saslow and colleagues, citing Valiant (2008), echo the significance of empathy and compassion, noting the *involvement*, *tenderness*, and *gratitude* are important descriptors of the spiritual character. Frequently, surveyed participants often report spirituality in connection with a strong respect and a strong love towards others (Woods & Ironson, 1999). Surveyed individuals are more likely to report a universal sense of respect and compassion to strangers, even if no social advantage the individual perceives he gains. Matthew and colleagues (1995; 1996) have noted spiritual individuals have faith in broad transcendental experiences and faith in a power that guides the universe, though not necessarily labeled God. Similarly, Brown and Peterson (2005) have noted spirituality has been very loosely characterized by several behaviors and attitudes including spending time among nature, an awareness of the relationship of the self and the environment, practicing healthy sleep routines, and practicing healthy eating habits.

Behavioral Consistency

Bandura (1986; 2003) observed strengthening patterns of behavior among religious assemblies and congregation. Moreover, Festinger's Cognitive Consistency Theory (1957) was cited by Khalid and colleagues (2013) for a justification of the relationship between religion and OCBs. Khalid and colleagues (2013) argue religious people maintain conformity with their religious values and are therefore more likely to enact more helpful behavior at work. As originally applied, theories of cognitive dissonance refer to two diverging approaches for

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processing information: self-enhancement and self-cognitive (Khalid et al., 2013). Self-consistency refers to a person's tendency to maintain a 'cognitive state' --- a psychological image aligned with a with how a person self-evaluates. This theory assumes that the individual will prefer any stimuli that is both familiar and stable. Moreover, it asserts that the individual cherry-picks information that will reinforce their own self-concept (Jones, 1973). While originally developed in the self-identity literature, theories of self-consistency are important to understand the degree to which the individual deploys their actions with consistency with their core beliefs of who they should be, in accordance to the premises their religious faith teaches.

***Hypothesis 3a:** Both religion and spirituality (RS) are positively correlated with organizational citizenship behaviors.*

***Hypothesis 3b:** Higher levels of organizational citizenship behaviors are predicted by scales that are more specific to organized religions than general spirituality scales*

Methods

The following section details the research methods use for the present study. The criteria for meta-analytic inclusion is further detailed, and the procedural steps that were undertaken. Finally, the procedure to classify scales is provided.

Criteria for Inclusion

For this study, the Pearson correlation coefficient r was the chosen measure of effect size. Studies that reported coefficient value synonymous to a correlation (e.g. regression coefficient, path coefficient) were included. For this study, each instance of a study's reported correlation amounted to an additional effect size for meta-analytic inclusion, as long as the repeated correlation was the result of a differing scale for the predictor. Sample was not a delimiting factor, neither was the magnitude of the reported correlation. A small number of studies were removed from consideration because they failed to meet the meta-analytic inclusion criteria. To be meta-analytically included, the following criteria were required: 1) studies must report a scale by which they measured the predictor of interest, 2) the construct which the scale purports to measure must match stipulative definition provided to raters (Definition 1 and Definition 2). Studies who did not report the scale they used for measuring were not included in the analysis; this amounted to 2 removed effect sizes. Studies who measured a construct distinct from the given stipulative definitions were removed; this amounted to 1 removed effect size.

Procedure.

The following section details the chronological procedure required for this study. Included in this discussion are an enumeration of the databases consulted, the search queries and Boolean operators, the subgroup specification, and scale classification.

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Databases Consulted

Email contact (see Appendix M), with authors of relevant studies, was made to secure religion and spirituality scales from researchers in the field and to avail more research for meta-analytic inclusion. Authors were also contacted through the ResearchGate network; full text of the given study were requested. A comprehensive internet search of studies in religiosity and spirituality in connection to job satisfaction literature, job performance, and organizational citizenship behaviors was conducted. Databases consulted included PsycINFO, RePEc, EBSCO, JSTOR, Google Scholar, and Microsoft Academic.

Search Query

For search queries, the keywords and synonymous variants of *religion* were employed including *religiosity*, or *faith*. In addition, established religions in connection to dependent variables was sought (e.g. *Christianity* and *job performance*, *Islam* and *citizenship behaviors*, *Hindu* and *job performance*). For this study, *task performance* and *employee performance* were both deemed relevant to job performance. Likewise, *citizenship behaviors* and *helping behaviors* were considered relevant to organizational citizenship behaviors. These are consistent with the literature (Podsakoff et al., 2000). For the three dependent variables (job satisfaction, job performance and organizational citizenship behaviors), 6 subgroups compared studies using more religion-specific scales versus studies that uses more general spirituality scales or non-religion scales. Studies were coded and indexed in Microsoft Excel spreadsheets; the spreadsheet contained the study name, the study's reported correlation r , and the study's sample size N . The spreadsheet was imported into RStudio.

Subgroup Specification

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Religion and spirituality were specified, a priori, as two subgroups.. Religion and spirituality are relevant to the study and are two variables of interest. This complies with recommendations by Harrer and colleagues (2019) that subgroup analyses be stated before the analysis if the researchers seeks to examine the variables through a fixed effects (plural) model.

Classification of Scales

Raters were convened in person and asked for their assessment to determine the classification of the scales. An SME-backed definition for religion and SME-backed definition for spirituality (i.e. Definition 1 and Definition 2) were presented to raters with the task of determining the given scale as either *religion*, *spirituality*, or *neither*. After debriefing the ratings, the subscale Meaningful Work was determined to be neither religious nor spiritual in accordance to how raters evaluated the scale based on the supplied definitions. The Spiritual Leadership scale was determined to be neither religious nor spiritual; raters commented it captured another construct altogether. Raters reviewed and classified the scales independent of the title of the scale; since the stipulative definition (See Definitions 1 and Definitions 2) carried extensive weight on the classification process, it should be noted that certain scales might be accurately described as spiritual or religious even if the present study did not describe them as such. Although grouping scales into categories is a subjective enterprise, the establishment of both SMEs and raters introduces sufficient intersubjectivity in the classification process.

Results

Supplementary Analyses for Publication Bias

Supplementary analyses refer to analyses that help determine publication bias. Publication bias analyses consist of several parts including a pre-visualization funnel plot, Egger's test of plot asymmetry, Rosenthal's Fail-safe N, and trim-and-fill procedure. The documentation for supplementary analyses is given in Appendix N.

Ellis (2010) defines publication bias as the preference involved in publishing a statistically significant study versus a study that is sound but not statistically significant. The present study uses the following analyses to measure publication bias: a preliminary visualization, Rosenthal's Fail-safe N, Egger's test, trim-and-fill (Duval & Tweedie, 2000).

Pre-visualization Funnel Plot

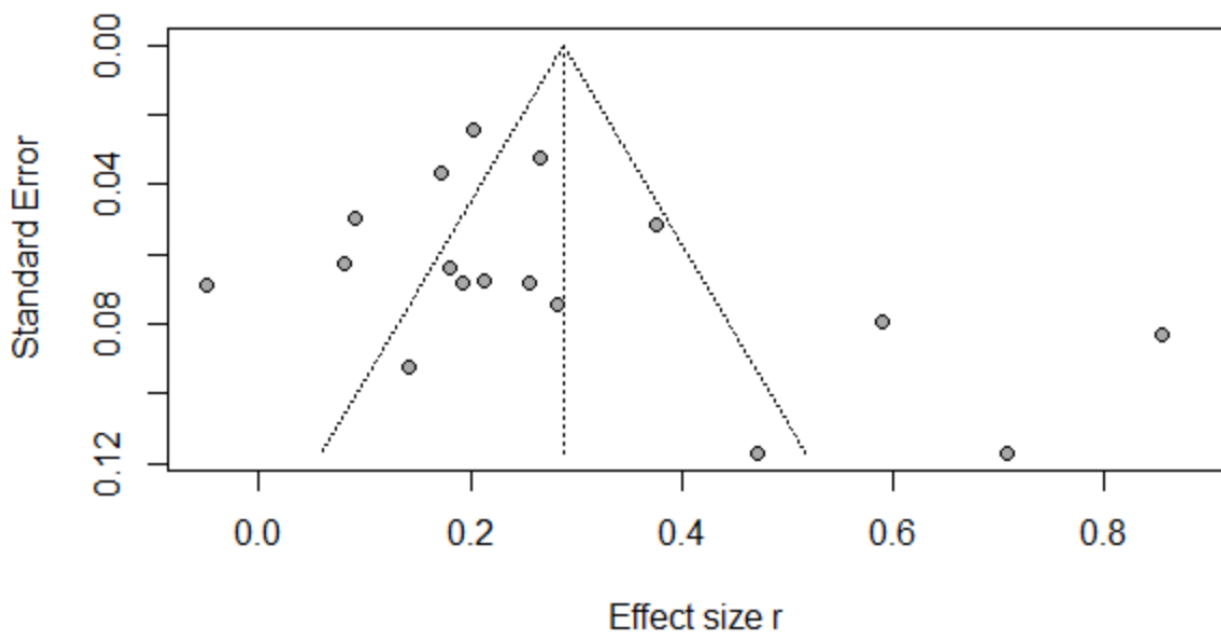
A funnel plot for pre-visualization was constructed. For the function funnel, the meta-analytic result from the previous calculation, i.e. $m.cor$ which is the pooled correlational effect sizes (Harrer, Cuijpers, Furukawa, & Ebert, 2019). The result is a counter-enhanced funnel which identifies the significance level (p) for the effect size of the study (Harrer et al., 2019). Borenstein and colleagues (2011) describe the characteristics of a symmetrical plot: the funnel plot will look symmetrical about the mean effect, usually represented as the dotted line bifurcating the two sides. For asymmetry, gaps in the funnel plot, usually in the bottom, are anticipated with a handful missing in the middle. A pre-visualization funnel plot to identify plot asymmetry was conducted for all three sub-groups (i.e. job satisfaction, job performance, and OCBS); plot visualizes small studies with small effect sizes missing (Harrer et al., 2019). The studies with

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larger sample sizes will have a smaller Standard Error, SE, while studies with smaller sample size have a greater SE. The effect size is the x-axis, while the SE is the y-axis. Figures 1, 2, 3 are shown below.

Figure 1

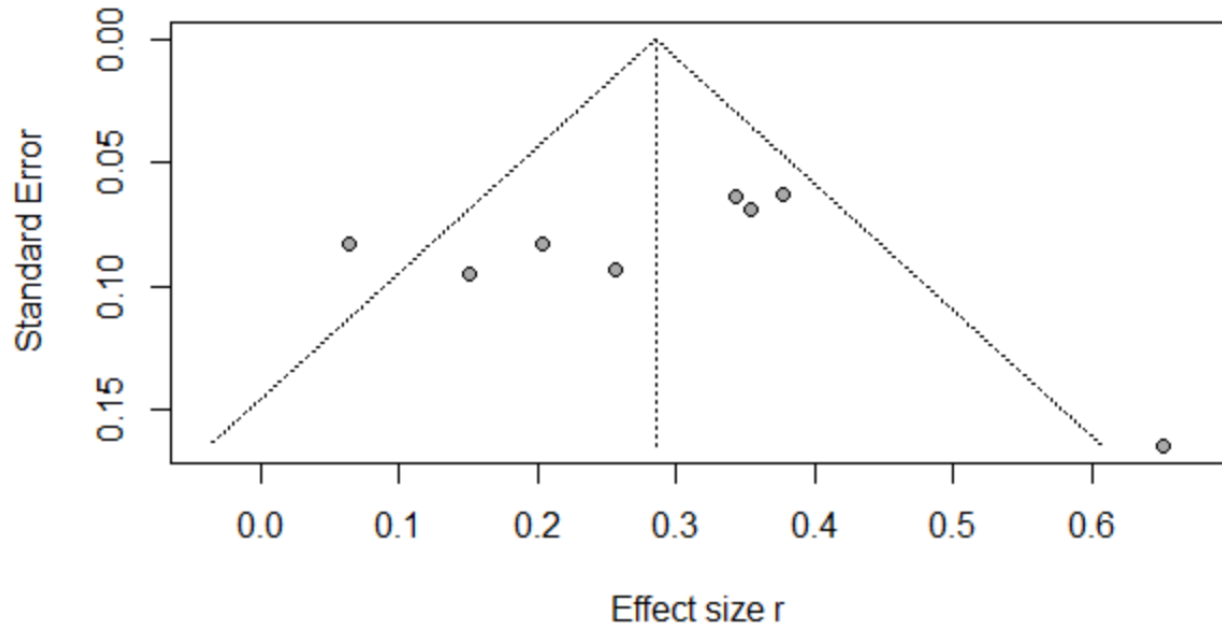
Pre-visualization funnel plot, RS on job satisfaction outcomes



Note. The funnel plot shows descending standard error for a given effect size 'r'. RS refers to religion and spirituality combined.

Figure 2

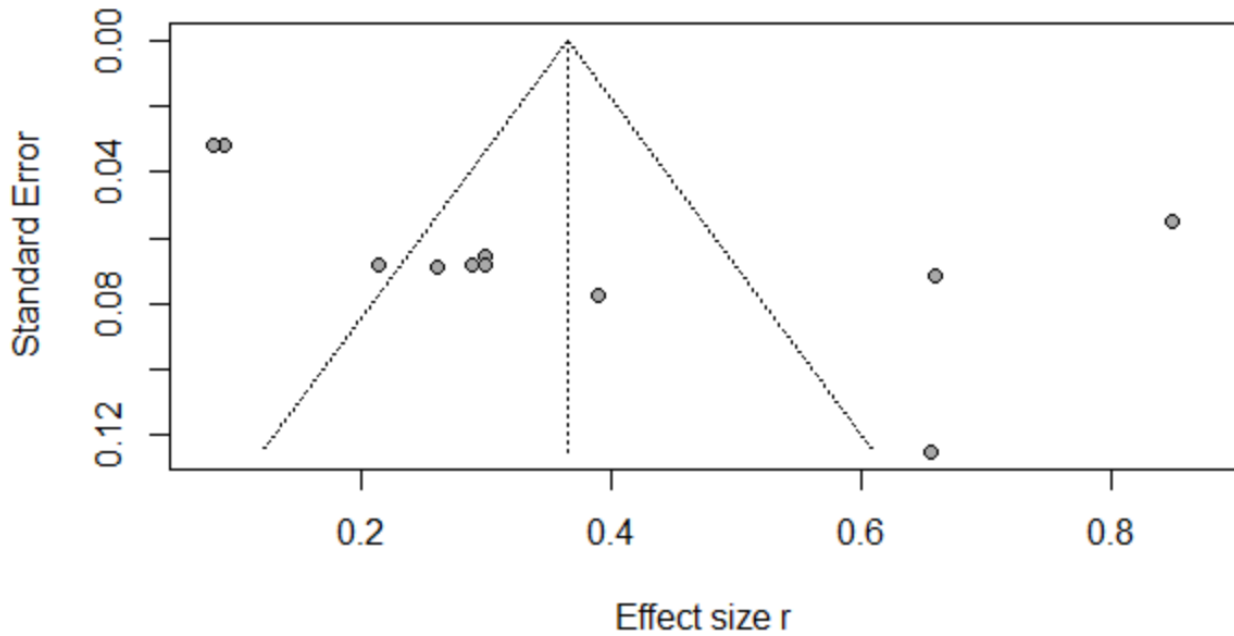
Pre-visualization plot, RS on job performance outcomes



Note: The funnel plot shows descending standard error for a given effect size 'r.' RS refers to religion and spirituality combined.

Figure 3

Pre-visualization funnel plot, RS on OCB outcomes



Note. The funnel plot shows descending standard error for a given effect size ‘r.’ RS refers to religion and spirituality combined.

Egger’s Test

Egger’s test is commonly used to test funnel plot asymmetry. The current study used ‘dmetar’ package. Egger’s test reports an estimate *intercept*, confidence interval, and *p*-value, which indicate asymmetry of the funnel plot. The test uses a linear regression model. Lin and Chu note that meta-analyses will only report the *p*-value of an Egger’s test because reporting the

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intercept hurts interpretability. The present study therefore only reports p-values for Egger's test, which indicate significance testing of funnel plot asymmetry.

For outcomes of job satisfaction, Egger's test was non-significant. For outcomes of job performance, Egger's test was non-significant. Running this analysis for job performance outcomes, RStudio announces fewer than 10 studies are present, which will affect the expected statistical power. For outcomes of OCB, Egger's test was significant, indicating high plot asymmetry, $p < .05$. Table 1 displays tests for asymmetry for all three groups of studies including intercepts, t-values, and p-values. Results suggest meta-analytic outcomes for OCBs should be interpreted cautiously.

Table 1

Egger's test for funnel plot asymmetry

	<i>Intercept</i>	<i>t- value</i>	<i>p-value</i>
<i>Job satisfaction studies</i>	2.39	1.46	$p=.17$
<i>Job performance studies</i>	-.08	-.03	$p=.98$
<i>OCB studies</i>	7.37	2.42	$p=.04$

Note. Egger's test: For three dependent variables the table shows the intercept, t-value, and p-value for Egger's test for funnel plot asymmetry. A significant p-value ($p < .05$) indicates asymmetry in the plot.

Rosenthal's Fail-Safe N

Rosenthal's Fail-Safe N test (1979), also known as the file drawer analysis, calculates the number of studies averaging null results that require to be added to reduce the combined p-value to a target value (customarily $p = .05$). For the present study, Rosenthal's Fail-Safe N was computed using the 'metafor' R package. First, the standard error from the meta-analysis output is named variable sei . The effect sizes from the meta-analysis output are named variable yi . Last, the dataset is specified, and the type of analysis is specified via the included arguments.

The present study conducted Rosenthal's Fail-Safe N to determine publication bias in job satisfaction ($k=16$). Results indicated that 131 would be required to reduce the effect to zero. For outcomes of job performance ($k=11$) results suggest 44 studies would be required to reduce the effect to zero. For studies of organizational citizenship behavior ($k=15$), results indicated that 151 studies would be required to reduce the effect to zero. Table 2 lays out the results for Rosenthal's Fail-Safe N.

Table 2*Rosenthal's Fail-safe N*

	<i>Fail-safe N</i>	<i>p-value</i>
<i>Job satisfaction studies (k=16)</i>	<i>119</i>	<i>p < .001</i>
<i>Job performance studies (k=11)</i>	<i>17</i>	<i>p < .001</i>
<i>OCB studies (k =15)</i>	<i>78</i>	<i>p < .001</i>

Note. Rosenthal's Fail-safe N: Fail-safe N refers to the number of studies averaging null results that require to be added to reduce the combined p-value to a target value.

Trim-and-Fill

In the trim-and-fill technique, the most extreme small studies from the positive side of the funnel plot are removed; at each step, the effect size is re-computed until the plot shows symmetry around the new effect size. The objective is the production of an unbiased estimate. Moreover, trim-and-fill adds the original studies back to create a mirror image. Duval and Tweedie (2000) note that this will help correct variance but will not affect the newly created estimate. Trim-and-fill thus is a strong calculation yielding the best estimate of an unbiased effect size (Borenstein et al., 2011). In RStudio, a trim-and fill technique is conducted. The original meta-analytic random effect output is compared by printing the command 'cor\$TE.random.' Finally, the funnel is generated and saved as a variable.

Harrer and colleagues (2019) note trim-and-fill is appropriate when Egger's test is significant. The present study conducted analyses for all three dependent variables to visualize the degree to which bias would be present. For studies on job satisfaction, the original pooled effect size was $r = .28$, 95% CI [.18, .38]. The trim and fill procedure rendered a smaller effect size, random effects model, $r = .22$, 95% CI [.09, .35], $z = 3.29$, $p < .001$. 2 studies were imputed. For studies on job performance, the original pooled effect size was $r = .28$. The corrected effect size rendered by the trim and fill procedure was a random effect model $r = .28$, 95% CI [.17, .38], $z = 4.82$, $p < .0001$. No studies were imputed. For OCB subgroup, the original effect was r

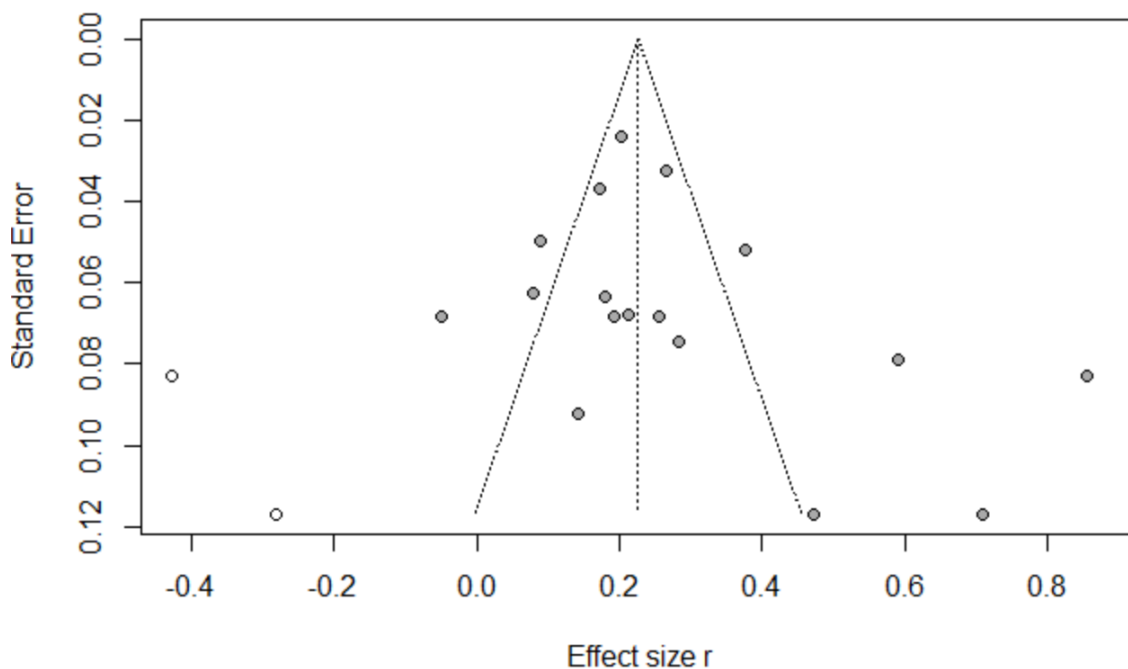
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= .35, 95% CI [.21, .47]. The corrected effect size rendered by the trim and fill procedure was a random effect model, $r = .14$, 95% CI [-.04, .31], $z = 1.51$, $p > .05$. 6 studies were imputed.

Egger's test was significant only for the OCB group of studies. Trim-and-fill results indicate that plot symmetry is restored when 6 studies are imputed for OCBs. The bias-corrected model ($r = .14$) was substantially smaller than the original pooled effect ($r = .35$). The results therefore suggest that the initial pooled effect for OCBs was overestimated due to publication bias. Therefore, results for OCBs should be interpreted cautiously. For job satisfaction and job performance, there is indication there is little to no funnel plot asymmetry that can be ascribed to publication bias. See Figure 4, 5, 6, for each trim-and fill funnel plot.

Figure 4

Trim-and-fill for studies of job satisfaction

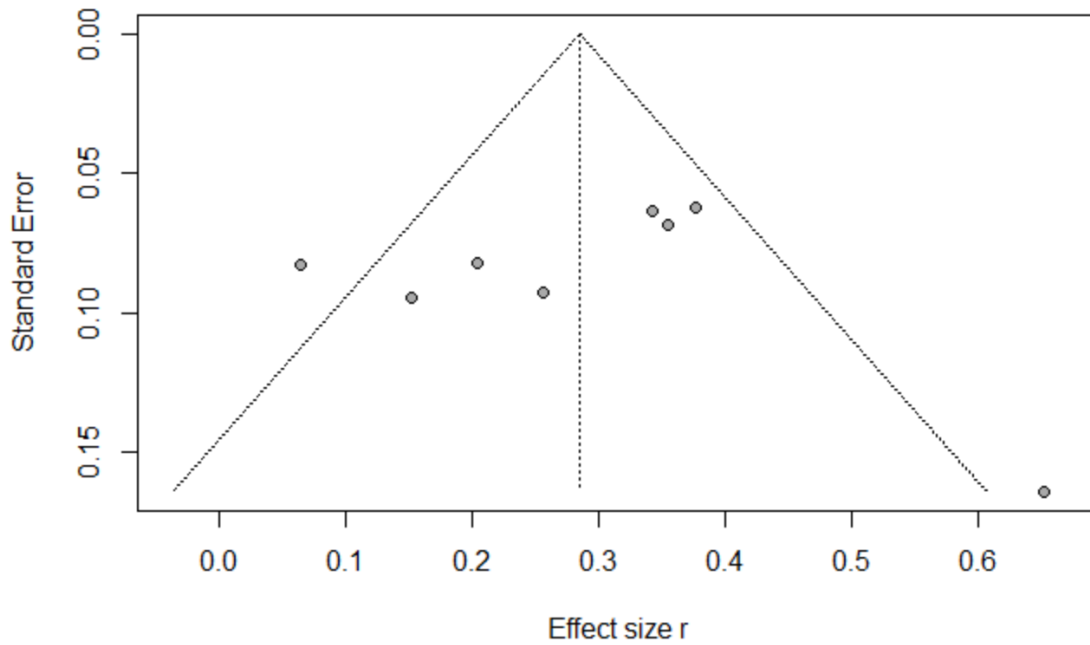


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Note. As a result of the trim-and-fill procedure, 2 studies to be added were indicated. (shown in white dots)

Figure 5

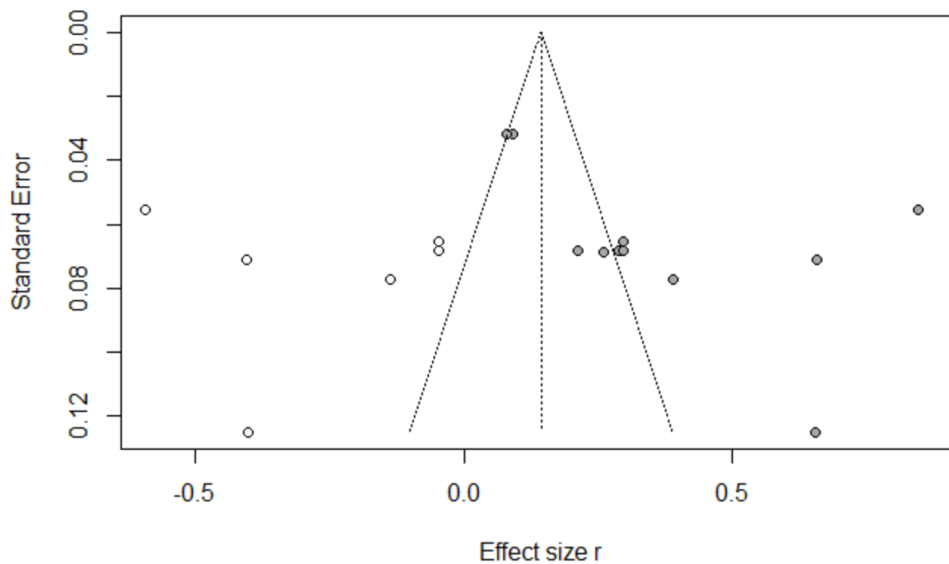
Trim-and-fill for studies of job performance



Note: Zero studies to be added were indicated.

Figure 6

Trim-and-fill for studies of OCBs



Note: As a result of the trim-and-fill procedure, 6 studies are added (shown in white dots)

Outlier test

The present study used confidence interval test technique to determine outliers. Harrer et al. (2019) describe assessing extreme outliers by defining an outlier as a study whose confidence interval does not overlap with the confidence interval of the pooled effect. The procedure requires the “dmetar” package. The *find.outliers()* function will identify studies whose confidence interval does not overlap with the confidence interval of the pooled effect. A forest plot is calculated, showing the outlier studies as weighted at “0”% to indicate they were not included for that figure. In the present study, a test for extreme effect sizes (determined by a

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non-overlap of the pooled confidence interval) rendered 4 outliers for job satisfaction outcomes and 4 outliers for outcomes of OCBs.

Outliers for Outcomes of Job Satisfaction

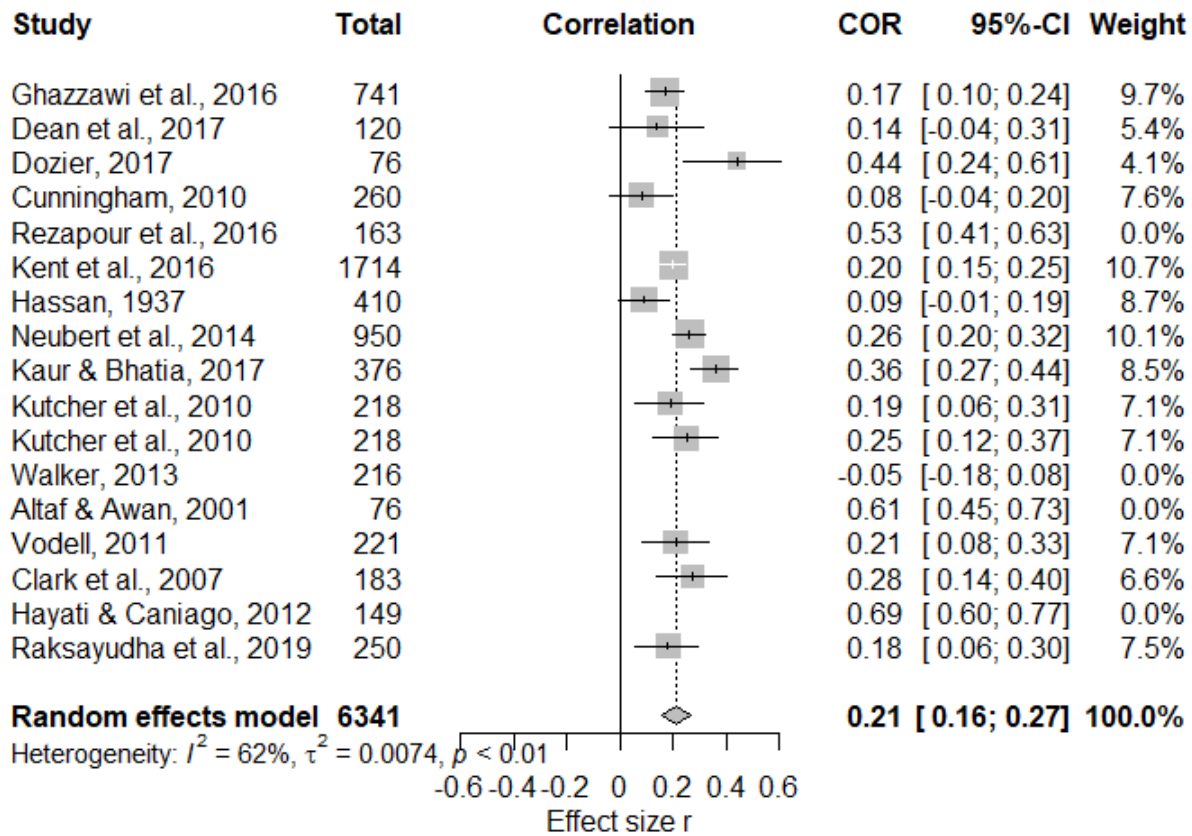
After the initial quantitative review of outliers, a qualitative review was undertaken to inspect any irregularities in the study's research design, sample size, or scale to measure the predictor. There was one moderate to large effect size ($r = .53$) reported by the study by Rezapour and colleagues (2016). The scale used for this effect size was a 64-item Islamic Religiosity Scale, for which no fewer than 20 items were procured for inspection (the scale was in Persian and email contact to the author did not manage to produce the scale in its entirety). For the next outlier, the effect size reported by Walker and colleagues (2013) was considerably small, $r = -.05$; the predictor was measured by Lynn et al. (2009) Faith at Work Scale, a 15-item measure measuring 5 dimensions including relationship, meaning, community, holiness, and giving. For the next outlier, the effect sized reported by Altaf and Awan (2001) was considerably large, $r = .61$. The sample size for this study was on the smaller end, $N=76$. The research design consisted of selecting 20 to 30 employees each from different organizations totaling 76. The population of the study was limited to corporations in Islamabad. For the next outlier, the reported effect size by Hayati and Caniago (2012) was considerably large, $r = .69$. The scale used to measure the predictor was the Islamic Work Ethic scale and the sample size was large, $N=250$. The participants were sampled from a population of banks workers in Bandar Lampung, Indonesia. The study notes that all participants were Muslim and cautions generalization to other banking populations. It was decided to include these 4 outliers in the pooled analysis and subgroup analysis. An examination of the study's design, the reported sample size, and research

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method did not suggest a reason to remove the outliers from meta-analytic inclusion. Figure 7 assesses the impact of outliers on the pooled effect size, for outcomes of job satisfaction.

Figure 7

Outliers marked for outcomes of job satisfaction



Note. Outliers marked by 0% weight. Outliers were identified when a study's confidence interval did not overlap with the confidence interval of the pooled effect size.

Outliers for job performance

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For job performance, the confidence interval analysis rendered no outliers for the random-effects model. The procedure was conducted several times to ensure that no outliers were identified.

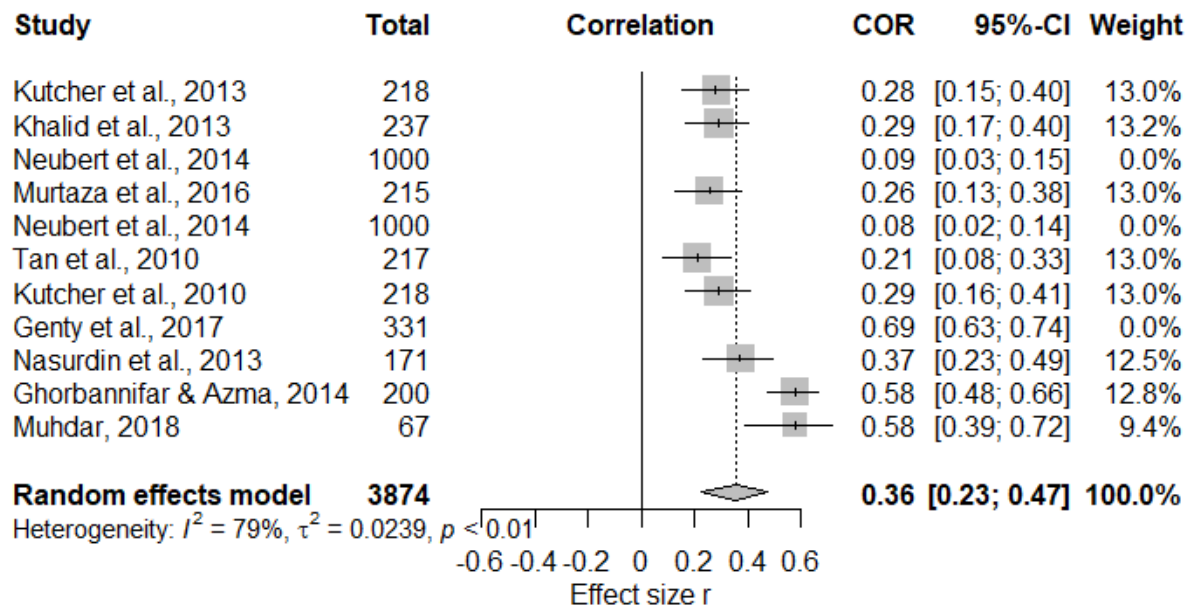
Outliers for Organizational Citizenship Behavior

For OCBs, the analysis rendered 4 outliers. For OCB outliers, two effect size report by the same study by Neubert and colleagues reported small effect sizes, $r = .08$ and $r = .09$. The scale for the first effect size was Honoring God at Work. The scale for the second effect size was Lynn et al. (2009) Faith at Work. The sample size for both effect sizes was 1000. The research design was an online survey propagated across a university network. The reported effect size by a study by Genty and colleagues was large, $r = .69$. The predictor was spirituality (specifically workplace spirituality) which may account for the high correlation to OCBs. The sample size as large, $N = 331$. The reported effect size by a study by Ghorbannifar and colleagues was moderate, $r = .58$. The sample size was large, $N = 200$. Both of these studies use Ashmos and Duchon's Workplace Spirituality scale.

For these 4 outliers observed in studies for outcomes of OCBs, it was decided to include them in the pooled analysis and subgroup analysis. An examination of the study's reported research design and sample size did not warrant exclusion from the meta-analysis. Further, Ellis (2010) cautions against removing effect sizes from meta-analyses since the criteria to remove a study is predicated on an evaluation of a study's match to a subjective criterion. In order to denote the presence of outliers, while including the outliers in the pooled effect and subgroup analysis, a separate figure was constructed. Figure 8 shows the impact of these 4 outliers on outcomes of OCBs.

Figure 8

Outliers marked for outcomes of OCBs



Note: Outliers marked by 0% weight. Outliers were identified when a study’s confidence interval did not overlap with the confidence interval of the pooled effect size. COR refers to the Pearson correlation coefficient.

Heterogeneity

This section discusses heterogeneity for the meta-analysis and heterogeneity for subgroups (i.e. religion and spirituality). For meta-analytic outcomes, the heterogeneity test, τ^2 estimator and other metrics are discussed. In addition, the heterogeneity test used for the subgroup analysis is also discussed.

Meta-Analytic (Pooled) Heterogeneity

For the meta-analysis of subgroups and combined analyses, a Chi-Square test of Q is conducted to ascertain presence of heterogeneity. A Sidik-Jonkman (SJ) estimator of τ^2 was utilized for the meta-analysis. For ease of interpretability, I^2 was used to express between-study heterogeneity results. Borenstein and colleagues (2017) however note that I^2 is not an absolute measure of heterogeneity and therefore in addition to the I^2 term, ranges for the intervals are provided. Moreover, researchers have noted that I^2 is acceptable to include in forest plots because it provides context, specifically, the proportion of variation in observed effects is due to variation in true effects.

For the meta-analytic study, the results of between-study heterogeneity are as follows. The job satisfaction subgroup exhibited large amounts of heterogeneity, $I^2 = 89\%$, [84%, 92%], $p < .01$. The job performance subgroup exhibited a moderate amount of heterogeneity, $I^2 = 63\%$, [22%, 83%], $p < .01$. The OCB subgroup exhibited large amounts of heterogeneity, $I^2 = 95\%$, [93, 97%], $p < .01$. The large amounts of heterogeneity presents a strong case for a random-effects model approach and analyses between subgroups of religion and spirituality.

Subgroup Heterogeneity.

The large amounts of heterogeneity for the pooled effect justified a closer examination for the heterogeneity between religion subgroup and spirituality subgroup. For the subgroup analysis, the SJ estimator approximated within-group heterogeneity. For outcomes of job satisfaction, religion subgroup exhibited greater heterogeneity ($I^2 = 91\%$) than did spirituality subgroup ($I^2 = 86\%$). For outcomes of job performance, religion subgroup exhibited greater heterogeneity ($I^2 = 80\%$) than for the subgroup spirituality ($I^2 = 18\%$). For outcomes of OCBs,

spirituality subgroup exhibited greater heterogeneity ($I^2 = 95\%$) than for religion subgroup ($I^2 = 80\%$).

Hypothesis Testing

This section discusses the results for analyses required to test the hypotheses. The results of the random-effect meta-analysis (pooled) are presented, followed by the results from the subgroup analysis. The documentation for the code, used in R software program, for hypothesis testing is provided Appendix O.

Random Effect Meta-Analysis

A random-effect model using a Hartung-Knapp-Sidik-Jonkman (HKSF) method was calculated for each subgroup (i.e. religion, spirituality) and for all studies combined (religion and spirituality, RS). Random effect differs from the fixed effect model in that it assumes the presence of variance in the distribution of true effect sizes, an estimate denoted by τ^2 . The random effects model can be expressed as follows,

$$\hat{\theta}_k = \mu + \epsilon_k + \zeta_k$$

wherein $\hat{\theta}_k$ is the effect size from the k th study. In addition to an assumption of deviation of effect size due to sampling error, ϵ_k , (the main assumption of the fixed effect model), the random effects accounts for the variance of the distribution of true effect sizes, denoted in the formula by ζ_k and often denoted more conventionally τ^2 , or *tau*. The formula for the HKSJ estimator is as follows:

$$var_{HKSJ} = \frac{\sum \omega_i^\tau (y_i - \hat{y})^2}{(k - 1) \sum \omega_i^\tau}$$

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For a t -distribution with $k-1$ degrees of freedom for an output of p values and confidence intervals, with k the number of studies for meta-analytic study. HKSJ, denoting the Hartung-Knapp adjustment alongside a Sidik-Jonkman estimator, has considerable advantages over other popular meta-analytic techniques, especially when k is small (Inthout, Ioannidis, & Borm, 2014). HKSJ method uses Sidik-Jonkman (abbreviated as SJ) estimator to calculate τ^2 . The SJ estimator will approximate the between-study heterogeneity, assuming the t -distribution with $k-1$ degrees of freedom (Inthout, Ioannidis, & Borm, 2014). For interpretability, statistical heterogeneity is frequently termed I^2 . In the present study, I^2 is utilized. Another benefit of HKSJ is the wider confidence intervals which result, rendering a more conservative estimate (Harrer et al., 2019).

As recommended by Harrer and colleagues (2019) for guidelines governing the pooling of effect sizes, Fisher's z transformation for correlations was conducted. Additionally, it is recommended to use an inverse variance method for pooling correlations. Finally, the Q profile method was utilized for obtaining confidence intervals of τ^2 and τ . Aaron, Kromrey, and Ferron (1998) note that the effect size in correlational studies is the signal-to-noise ratio among interval or scale measures. Aaron et al. (1998) note that meta-analytic studies often. In review of the literature, although studies might report Cohen's d and other effect sizes, they always report Pearson's r , considered among the academic community as the standard reporting measure of effect size. Another frequent effect size 'g' was considered but the present study did not benefit from a sample-sensitive effect size, which 'g' is.

From an input of correlations (cor) and sample sizes (n), the 'metacor' function, part of the R package 'meta', calculates z -transformed correlation effect sizes. The final output gives

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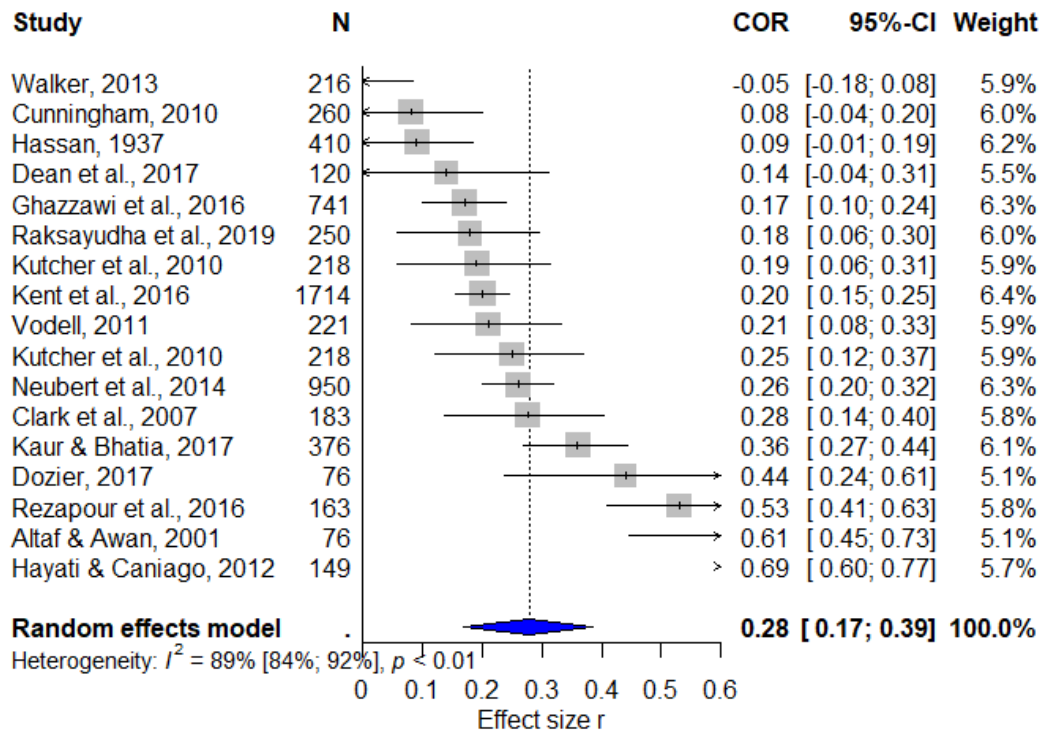
the random effects model, the study name, sample size (N), reported correlation (COR), weights for the random-effects model, and confidence intervals (CI). Upon invoking the library ‘metacor’ and invoking the dataset, the script below pools the effect sizes r , with an SJ heterogeneity estimator. For a given dataset named *dataJS*, the analysis is conducted and the variable *m.cor* is created. The variable creation, *m.cor*, allows viewing the analysis, graphing the analysis and further manipulation. Next *studlab* arguments inputs the Author column from the dataset. The *ZCOR* argument refers to the Z-transformed correlations. The *method.tau* argument is stipulated to be Sidik-Jonkman estimator (Sidik Jonkman or “SJ”) (Harrer, Cuijpers, Furukawa, & Ebert, 2019). To graph each subgroup of interest, a forest plot was constructed in R Studio, using the *forest* function, part of the ‘meta’ package (Harrer, Cuijpers, Furukawa, & Ebert, 2019).

Job Satisfaction Meta-analytic Outcomes.

First the present study hypothesized (Hypothesis 1a) that religion and spirituality (RS) was positively correlated to job satisfaction. Results show that RS was positively correlated with job satisfaction outcomes; the pooled effect was positive, $r = .28$. The effect, corrected for outliers, was positive, $r = .21$. Thus, Hypothesis 1a was supported. Figure 9 shows the meta-analytic results for job satisfaction.

Figure 9

Pooled effect sizes, religion and spirituality on job satisfaction



Note: COR refers to the Pearson correlation coefficient.

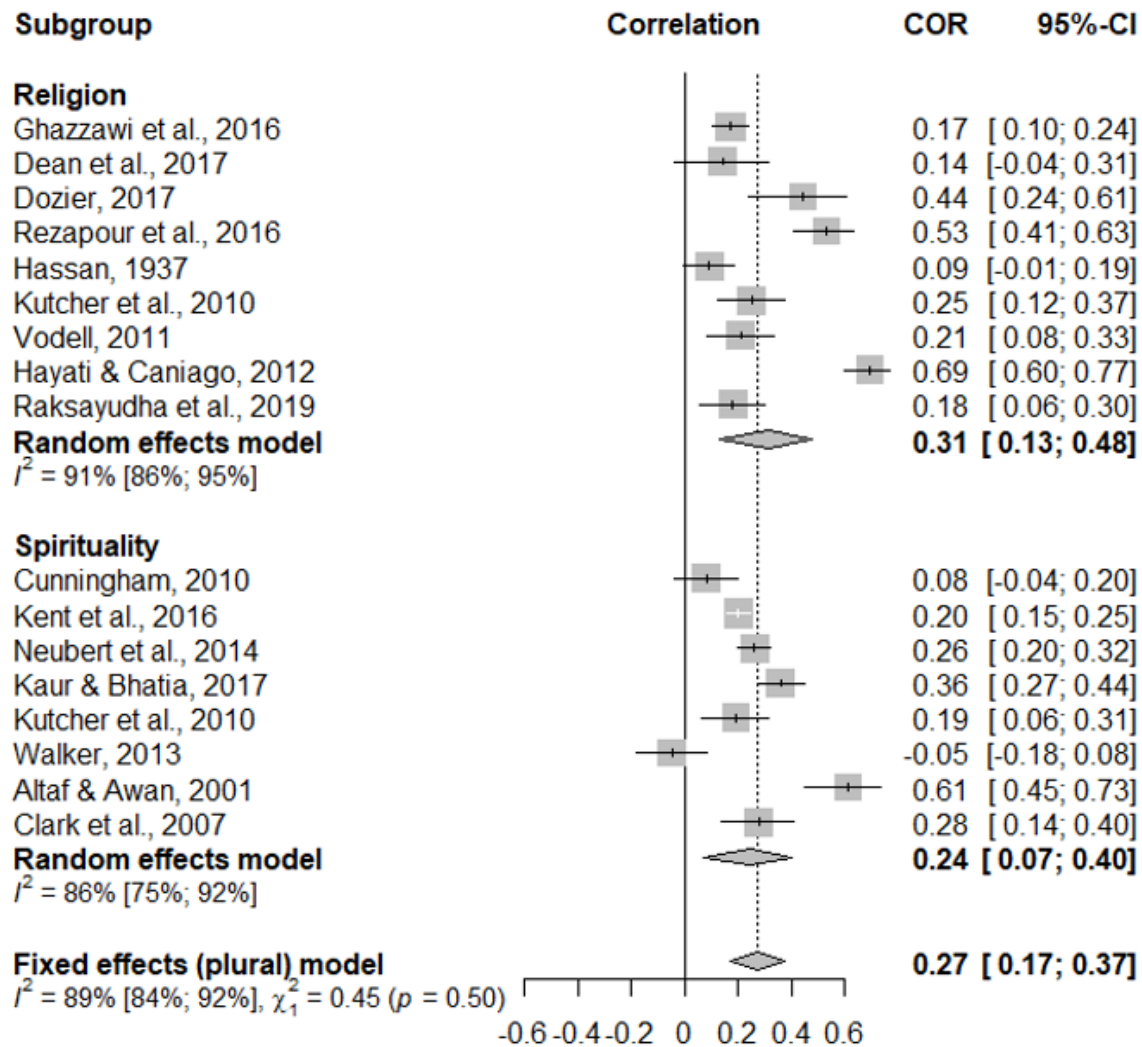
In order to determine if there were significant differences between subgroups (i.e. religion, spirituality), a fixed effects (plural) model was utilized. This technique is appropriate when the subgroups are a priori and considered fixed levels of interest to the investigator (Borenstein & Higgins, 2013). The fixed effect analyzes between studies. The difference between subgroups was calculated as a Q statistic and reported in the form of a Chi-square equation, with a corresponding p-value.

Results show that for outcomes of job satisfaction, there was no statistically significant differences between subgroup religion and subgroup spirituality, $p > .05$; thus, Hypothesis 1b

was not supported. Figure 10 shows the subgroup results for job satisfaction.

Figure 10

Subgroup analysis on outcomes of job satisfaction



Note: COR refers to the Pearson correlation coefficient.

Job Performance Meta-analytic Outcomes.

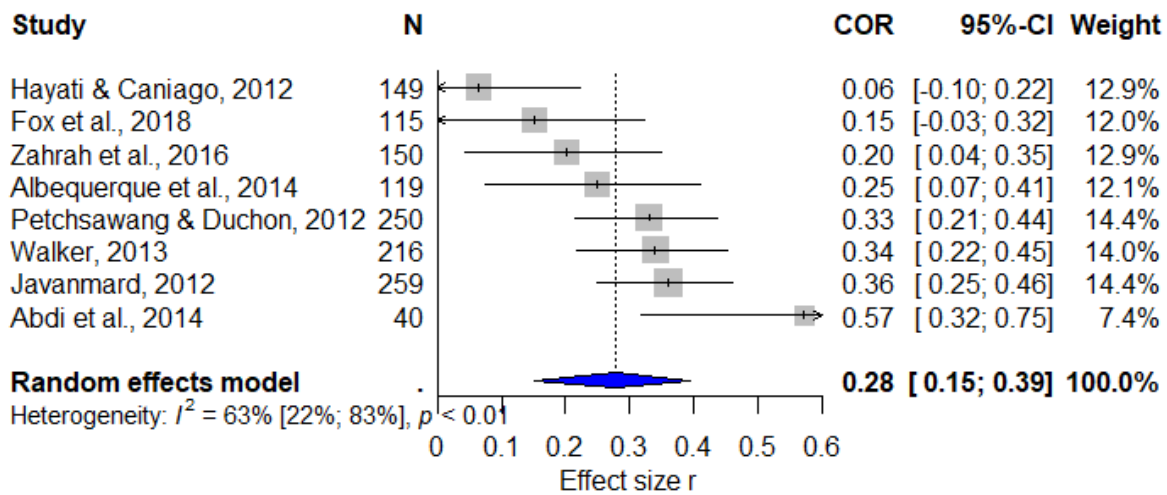
Second, the present study hypothesized (Hypothesis 2a) that RS was positively correlated

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to job performance. Results show that RS was positively correlated with job performance; the pooled effect was positive, $r = .28$. Analyses did not identify any outliers. Thus, Hypothesis 2a was supported. Figure 11 shows the pooled effect of outcomes of job performance.

Figure 11

Pooled effect sizes, religion and spirituality on job performance

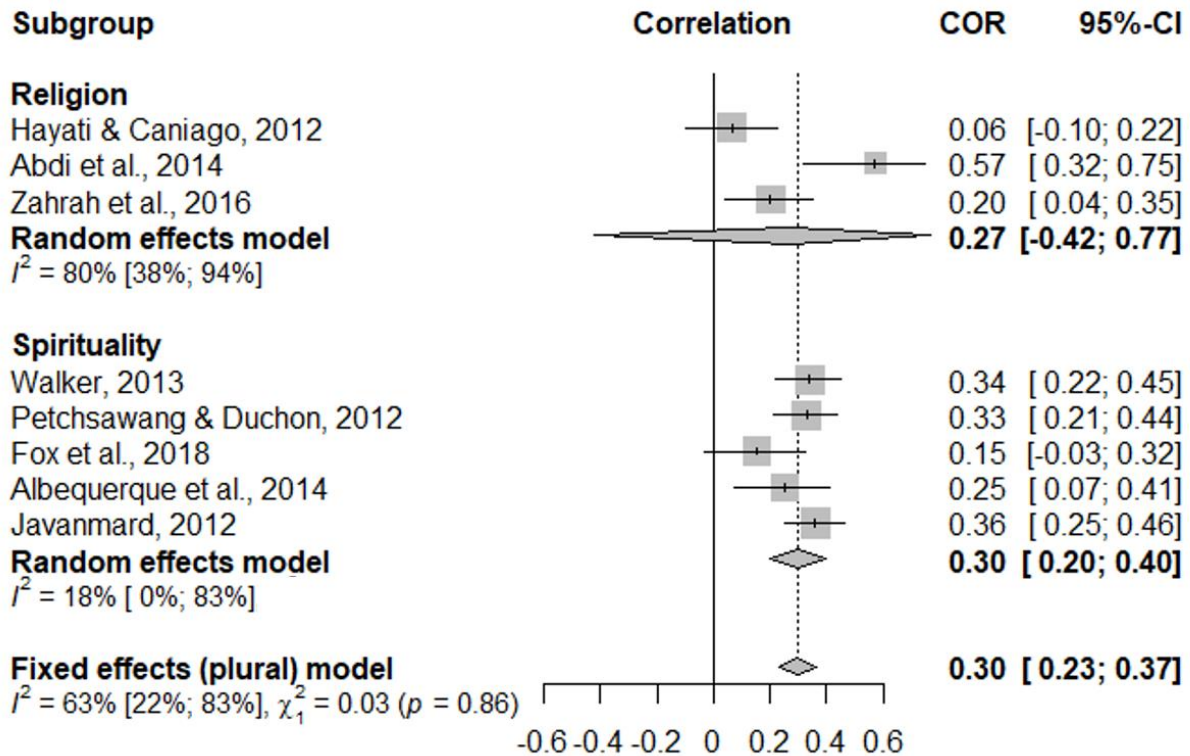


Note: COR refers to the Pearson correlation coefficient.

There were no statistically differences between subgroups, religion and spirituality, $p > .05$; thus, Hypothesis 2b was not supported. Figure 12 shows the subgroup results for job performance.

Figure 12

Subgroup analysis for outcomes of job performance



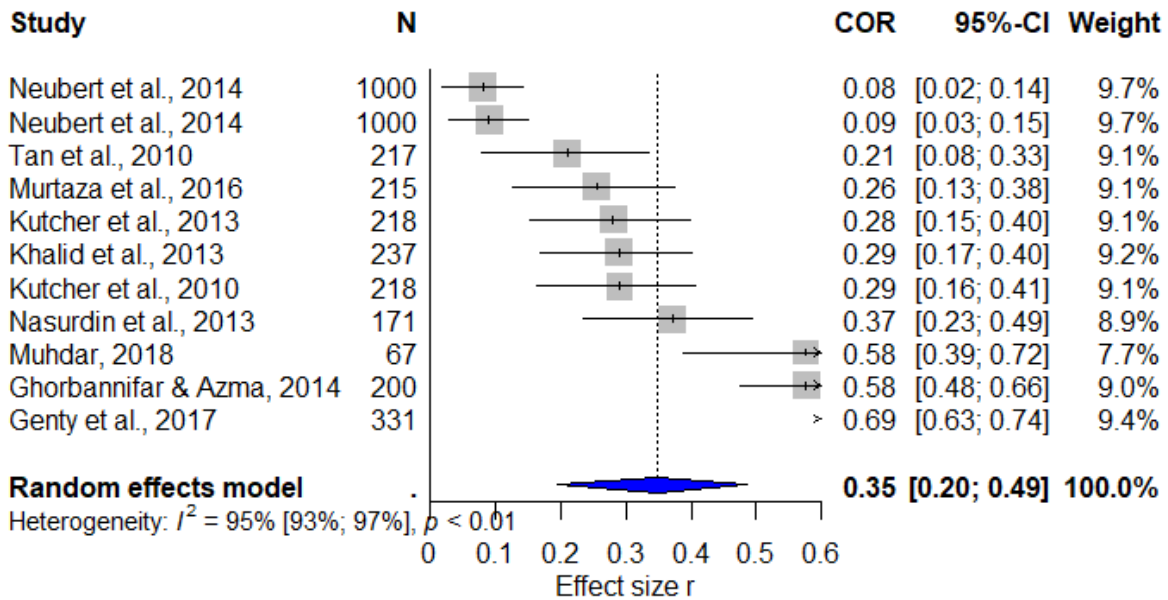
Note: COR refers to the Pearson correlation coefficient.

OCB Meta-analytic Outcomes

Third, the present study hypothesized (Hypothesis 3a) RS was positively correlated to organizational citizenship behaviors (OCBs). Results show that RS was positively correlated with job performance; the pooled effect was positive, $r = .35$. The effect size, corrected for outliers, was positive, $r = .36$. Thus, Hypothesis 3a was supported. Figure 13 shows the results for the pooled effect on outcomes of OCBs.

Figure 13

Pooled effect sizes, religion and spirituality, on OCBs

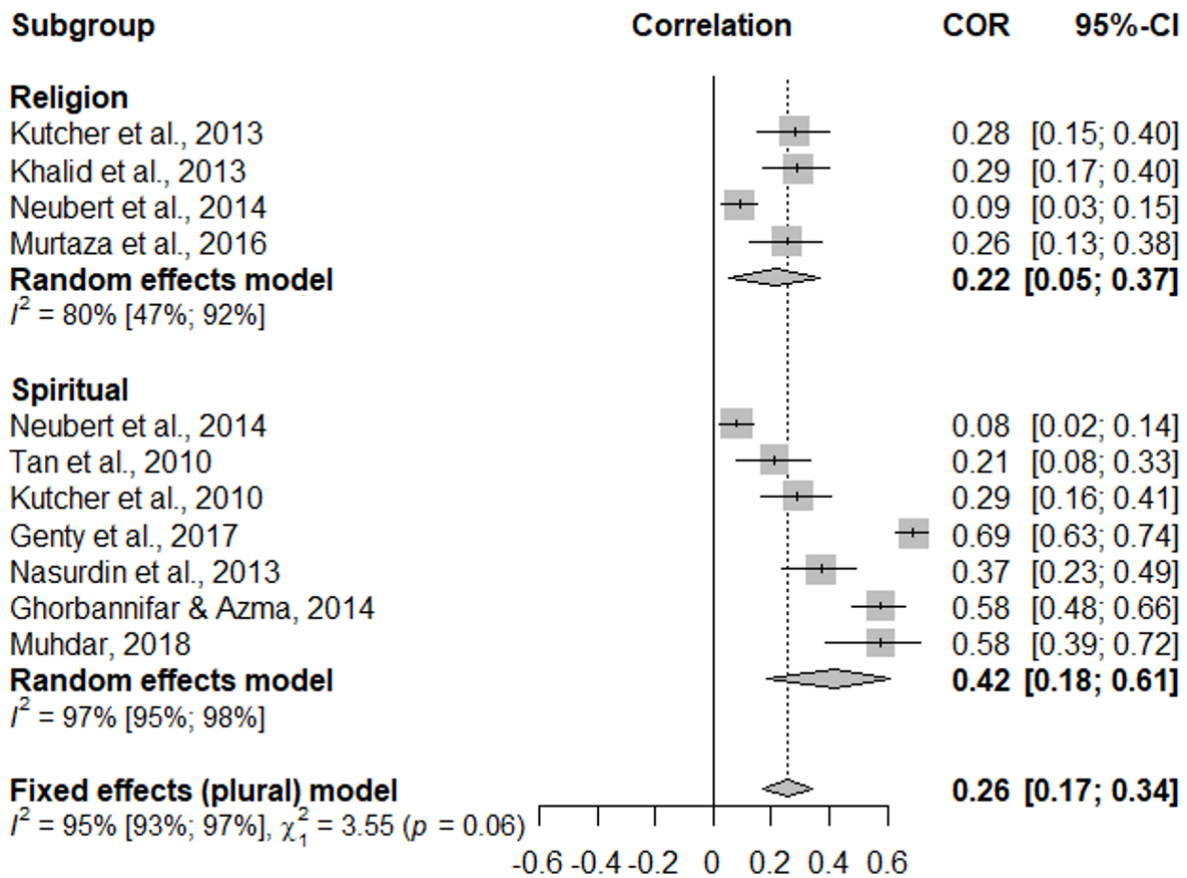


Note: COR refers to the Pearson correlation coefficient.

There were no statistically significant differences between subgroups, religion and spirituality, $p > .05$. Thus, Hypothesis 3b was not supported. Figure 14 shows the subgroup results for OCBs.

Figure 14

Subgroup analysis for outcomes of OCBs



Note: COR refers to the Pearson correlation coefficient.

Exploratory analysis of gender.

Meta-regression is an exploratory technique in which moderators are examined, looking for statistical significance. For an effect size theta, mixed effects meta-regression is a regression that is built as follows. (Huizenga, Visser & Dolan, 2011).

$$\hat{\theta}_k = \theta + \beta_1 x_{1k} + \dots + \beta_n x_{nk} + \epsilon_k + \zeta_k$$

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The equation above is a mixed-effects model where β is the fixed effects and the ϵ_k and ζ_k represent the random effects (Harrer, Cuijpers, & Furukawa, 2019). An exploratory analysis of gender was conducted to note how gender played a role in the size of the reported effect sizes, using the mixed effects model. The analysis was conducted in RStudio using the ‘metafor’ package; between-study heterogeneity was estimated using restricted maximum likelihood (REML). Gender as a moderator was calculated as female-male ratio. The code below calculates both the meta-regression and additionally calculates a general linear model. For a given dataset `fmratioJP`, a fixed coefficient model `res.lm` is created. For dataset `fmratioJP`, a mixed effect model `res.rma` is fitted, where `cor` is the effect size r , and `fmratio` is the female-male ratio. The mixed-effects model for meta-regression was conducted, with the function `rma()` and a fitting correction ‘Knapp & Hartung.’ This correction imparts consistency between `lm()` and `rma()`, resulting in an F-equation instead of a Chi-Square equation.

An exploratory analysis of gender was conducted due to hypothesis of gender differences on measures of religiosity. In meta-regression, the moderator, gender, was imputed to the effect size in as a ratio of females to males. For job satisfaction criterion, $k=10$, the test of moderator was non-significant, $F(1,8) = .80, p > .05$. For job performance criterion, $k=6$, the test of moderators was non-significant, $F(1,4) = .02, p > .05$. For organizational citizenship behavior (OCB) criterion, $k=10$, the test of moderator was non-significant, $F(1,8) = .003, p > .05$. Thus, even though there is considerable heterogeneity in the effect sizes (which suggests the presence of moderators), gender does not appear to be a moderator for these effect sizes.

A Restricted Maximum Likelihood (REML) heterogeneity estimator for τ^2 was utilized for a moderator analysis of gender. For job satisfaction, residual heterogeneity was estimated at

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$\tau^2 = .01$. For job performance, estimated residual heterogeneity was $\tau^2 = .03$. For OCB outcomes, residual heterogeneity was estimated at $\tau^2 = .03$

Discussion

The present study examined the relationship between measures of religiosity and measures of spirituality on outcomes of job satisfaction, job performance, and organizational citizenship behavior. The second aim was a comparison between religion-specific studies and spirituality as predictors of job satisfaction, job performance, and organizational citizenship behaviors. Per recommendations of Singleton and colleagues (2004), stipulative definitions were given for religion and spirituality. The present study defined religion and religion-specific faiths as the organized set of beliefs, values and practices within an organized institution or framework. Spirituality was defined as the general awareness of the spiritual, transcendent and its implications as a way of life wherein a higher power is acknowledged (Neely & Mindford, 2008; Singleton et al., 2004).

Review of Hypotheses

The present study hypothesized a positive correlation between both religious faith and spiritual faiths (RS) on outcomes of job satisfaction, job performance, and organizational citizenship behaviors (OCBs). It was hypothesized that the mechanisms of church attendance, social support, and coping resources would render religion a predictive advantage over spirituality on all outcomes measured. The results indicated that RS was positively associated with all of the outcome variables. Specifically, across studies, RS predicted job satisfaction ($r = .28$), job performance ($r = .28$), and organizational citizenship behaviors ($r = .22$). Contrary to the hypotheses, however, religion was not a stronger predictor of any of the outcome variables than spirituality was ($p > .05$). Overall, these results suggest that religion and spirituality are

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moderate predictors of important workplace outcomes. The results also indicate that religion and spirituality are both equally competent predictors.

Implications of Findings

The implications of the study's findings are detailed in this section. The results of this study reconfirm the positive relationship between RS predictors on job satisfaction, job performance, and organizational citizenship behaviors; the study's findings also highlight the communality found between religion and spirituality. Finally, repercussions on scale development, implications on the role of RS in the workplace are discussed, other implications and limitations are discussed.

Establishing a Positive Correlation for RS.

The first aim of the present study was to establish a positive correlation between RS and job satisfaction, job performance, and OCBs. Results show that RS was positively correlated to the three dependent variables. Some studies, in meta-analytic inclusion, reported negative effects; however, these negative studies reported very small negative effect sizes (e.g. $r = -.05$). All of this indicates that there are important moderators of these effects which were not identified by this study.

Effect of Gender

Additionally, an exploratory analysis of moderators noted that gender was not a significant moderator on the relationship between RS and the three dependent variables. This suggests that gender has no effect on reported levels of religiosity or spirituality; therefore, the results of the present study are applicable across gender. These results suggest study-specific effect sizes were not affected by the proportion of females to males in which a study is designed

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and sampled. While considerable heterogeneity of effect sizes exists, gender does not moderate the study-specific effect size.

Subgroup Differences

Despite the overlap between religion and spirituality (Koenig, 2019), the present study theorized that the emotional support involved in church attendance is variance not accounted for by spirituality. It was hypothesized that religion, in comparison to spirituality, would be conducive to higher predicted levels of job satisfaction because religion's social component helps buffer the effects of negative work experiences and religion's group membership helps bring negative work experiences into a normalized view. It was hypothesized that religion, in comparison to spirituality, would be more conducive to higher predicted levels of job performance, because religion's social component is a powerful coping resources and religion serves intrinsic and extrinsic job motivation. Finally, it was hypothesized that religion, in comparison to spirituality, would be more conducive of higher predicted levels of OCBs because prescribed subsets of behavior are linked to religion and religious people have been shown to enact higher pro-civil activity than secular individuals.

Communalities in RS

However, the results of this study, for all outcomes, show that all differences between religion and spirituality were not statistically significant. This suggests that the variance may be attributed to the overlap between religion and spirituality, instead of the hypothesized religion-specific differences (e.g. social support, group membership). Thus, these findings suggest

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religion and spirituality both predict job performance, job satisfaction and OCBs,-- due to a shared variable or communality present in religion and spirituality.

The findings of the present study suggest that religion and spirituality are equally capable as predictors of levels of job satisfaction, job performance, and OCBs. One key communality discussed in the literature, for both religion and spirituality, is the mechanism of faith. Tillich (2001) defines faith as the domain of the ultimate concerns of life. The bottom-line or most important element of concern for many religions is *God*; so, although believers are taught to obey religious teachings and exhortations, they are taught that they must render their whole life obedient and subservient to a new cause, to God. In this way, faith is not merely a cognitive state. This belief in an unseen realm, a faith in the unseen, is accounted in both religion and spirituality. Both religion and spirituality share a communality with the divine, or the concept that a realm exists, transcendent to the earthly realm, and thereby deserves respect and reverence by religious and spiritual believers. Consistent with observations by Banin and colleagues, awareness of the divine and sacred also imbues religious and spiritual individuals with a character of humility, meekness, and concern for others. Although it is entirely probable that secular individuals also display these characteristics, the beliefs shared by religious and spiritual people are pointedly more emphatic on these characteristics than beliefs shared by secular people.

Having discussed the overlap between religion and spirituality, it is apparent future research is needed to illuminate RS in the workplace, which is a relatively new research inquiry. The most immediate literature findings gravitate towards examinations of the differences, not similarities. Still, these arguments are compelling to explore. One major challenge in which

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researchers are interested is to delineate the juncture where religion ends, and spirituality starts. However, seeking this delineation assumes religion and spirituality are tail ends of the same continuum. Although traditional views of religion have held these assumptions, modern research efforts, notably led by Koenig, recommend spirituality is the larger framework wherein religion is housed; researchers note that this paradigm is the preferred with highest literature consensus (Koenig, 2019).

Differences in RS

Both religion and spirituality are concerned with two main concepts: that which is sacred and that which is divine (Hill & Pargament, 2003; Pargament, 1999). Nevertheless, the differences between them usher in a long tradition of debate and discussion, as scholars seek to better distinguish the two constructs. Some cite the work of Richards and Bergin (1997) for helping illuminate clarity on the debate. Richards and Bergin (1997) distinguish religion from spirituality by outlining religion as the adoption of a creed or church, while spirituality as that of a transcendental experience.

From this view, religion is the small subset within spirituality. Richards and Bergin (1997) argue that it is possible to be spiritual and not religious or vice versa, noting they are not mutually exclusive. Further, Koenig (2019) observes spirituality as a personal, attachment-free paradigm that is often presented as non-divisive and relevant to both the religious and secular. Koenig (2019) additionally observes to be spiritual need not require the individual identify as religious, although its possibly might. Thus, the realm of spirituality is distinct from that of religion (Fry, 2003; Veach & Chappell, 1991) but the reason both predict these workplace-related outcomes reflects the extent to which they overlap.

Considerations for Scale Development

A tendency to conflate the terms “*religion*” and “*spirituality*” continues to persist both among the lay public and within academia; spirituality, which regarded as the more inclusive construct suffers from multiplicity of definitions (Karakas, 2010). The need for a wholesale construct by arbitration is necessary in light of the ambiguity for the overlap between religion and spirituality. As a whole the construct of religion is more precise because it entails specific faiths with a litany of valid and reliable scales (Hill, Hood, & McCullough, 2000). Experts in religion research concede that spirituality is multi-defined (Koenig, 2019; Karakas, 2010), which suggests that added consideration should be taken when developing scales of spirituality. The present study found a number of instances in which the purported measure was not accurately captured by the individual writings. Additionally, some scales introduced items that were irrelevant to the construct or that measured a wholly different construct dimension. Consideration towards a more robust content-related validation could ensure higher amount of definition intersubjectivity and a resulting more homogenous measuring instrument.

Limitations

Limitations of the present study are now discussed. These include stipulative definitions, biases, subjective criteria, and empirical rigor of studies analyzed.

Stipulative Definitions

Two stipulative definitions (Definition 1 and Definition 2) guided the decision-making process for classification of studies as spiritual or religion specific. Specifically, these definitions helped analyze the individual item wording for each scale and help determine whether the scale

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was predominantly religion-specific or predominantly spiritual. Admittedly, scales might have items that fit both stipulative definitions, in which case the largest percentage of items determined the nature of the scale (e.g. 60% of items are spiritual, therefore the scale will be treated as spiritual).

Biases

As a consequence of null hypothesis testing, researchers often gravitate toward publishing and submitting results of studies they can more readily demonstrate a conclusion, choosing not to publish non-significant studies (Ellis, 2010). Additionally, the omission of non-English studies is known as the Tower of Babel bias; researchers contend that non-English authors might simply choose not to publish on account of non-significant findings. Gregore and colleagues (1995) mark this a linguistic exclusion criterion, biasing the meta-analysis. Not only are researchers unlikely to submit non-significant results but they choose not to submit for publication a given result with a low effect size. Harrer and colleagues (2019) explain that as the effect size increases, results tend to become more statically significant, particularly for small studies. To lower the threat of availability bias and publication bias, Ellis (2010) names three common ways to calculate availability bias: comparison of mean estimates from both published and unpublished studies, calculating a funnel plot that shows the distribution of effect sizes, and calculating a fail-safe N. The fundamental idea is to ensure no unpublished effect sizes goes excluded. The publication bias results for the present study report presence of publication bias, as measured by a trim and fill, for studies of organizational citizenship behavior outcomes (OCBs). Egger's test's was only significant for studies of OCBs, indicating funnel plot asymmetry for OCBs. Therefore, pooled effect sizes and subgroup analysis for outcomes of

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OCBs should be interpreted with caution, since there is likelihood the reported effects are overstated.

Subjective Criteria

Eysenck (1978: 517) famously remarked, “A mass of reports—good, bad, indifferent- are fed into the computer in the hope that people will cease caring for the quality of the material on which conclusions are based.” As a corollary to his argument, results would be more accurate if ‘bad’ studies are filtered from meta-analytic inclusion. However, Ellis (2010) notes that this in very fact thrusts the value judgment on the researcher himself, leading to several concerns. Among these is the introduction of reviewer bias and diverging notations of what a ‘good-quality study’ is. Therefore, to avoid the precariousness associated with value judgments on the criteria for quality research. Thus, meta-analysis should include all accessible literature, for fear of scientific censorship or data manipulation (Ellis, 2010).

Empirical Rigor Among Studies

As a prerequisite for running a moderator analysis, a thorough review of the reported data for each meta-analytic study was conducted. An absence of empirical documentation of variables of interest (i.e. religious participation, age) was found for the majority of studies, this absence of data obfuscated efforts towards a comprehensive moderator analysis. The most commonly reported variable was gender; however, a handful of studies did not report demographics for Gender. Age was another variable of interest, for which studies disclosed in broad age ranges or study-specific categories (i.e. young vs. old.).

Future Research

Future research is now discussed. These include the following: research in religious variation, research in under-presented religions, research for the overlap among religions, gender differences in religious commitment. It is believed that exploration of any and all of these inquiries would offer timely immediate benefit to the RS literature and wider psychology literature, including the I/O psychology literature.

Religious Variation

Future research should explore the variation within specific religions, notably, Hinduism for its range and diversity of theology. Another religion that shows considerable divergence is Christianity; research should explore specific denominations of Christianity (i.e. Protestantism, Catholicism, Pentecostalism) on different outcomes in the workplace. Although Christian denominations share a communality of beliefs, the variation between denominations is a novel research inquiry, potentially affecting beliefs about life purpose and work ethic.

Under-represented Religions

The five major religions of the world as measured through number of adherents (Ghazzawi et al., 2016), include two religions, namely Buddhism and Judaism, for which no study measured these religions on outcomes of either job performance, job satisfaction, or organizational citizenship behaviors. The study by Ghazzawi and colleagues looked at a sample in Southern California, which did include Buddhist and Jewish believers; however, no Buddhist or Jewish scale was used for that study. Therefore, a recommendation is made by the present study to explore the role of under-represented religions (i.e. Buddhism and Judaism) on work outcomes. Scales designed to measure these religions already exist; this present study found no

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instances for a study examining work outcomes and utilized these Buddhist or Jewish measures of any dimension of religiosity. After thorough search literature, there were no studies using Judaism scales in connection with job satisfaction, job performance, or organizational citizenship behavior. The same may be said of Buddhist scales, for which there were no instances in the literature in connection with the three desired dependent variables.

Overlap Among Religions

Researchers note an important pre-requisite for analysis of religion is an identification of overlap. The overlap takes the form of shared propositions. Inherent to this claim, Neusner and Chilton (2008) notes that communality of shared propositions must be estimated through the weight or priority each religion gives a proposition. Notwithstanding, Neusner and Chilton (2008) cautions that the increased degree to which a proposition is shared among religions, the more likely that the given proposition will lose weight for any particular religion. That is, the proposition might still be important, but it loses priority among the system as the proposition becomes shared across more religions. Future research should explore communalities among religions and explore if widely shared beliefs among religions coincide with smaller level of dogmatic priority for that belief.

Gender Differences in Religious Commitment

A 2016 report by the Pew Research Center notes that women report greater levels of religiosity, a trend that has continued since the 1930s. Although the female religiosity has been noted, no well-accepted explanation in the scientific community for *how* females might experience higher religious involvement or *why* females might self-report greater than males has yet been presented. One theory currently being explored by Collett and Lizardo (2009) is the

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effect of patriarchal vs egalitarian family structure, influencing the individual's upbringing.

Moreover, studies suggest that women who grew up in high socioeconomic status (SES) and raised by mothers who rated in high SES were more likely to be less religious than women raised by mothers with low SES. For men, the study found no change due to family upbringing.

Bradshaw and Ellison (2009) argue that the higher religiosity in women can be explained by biological factors, especially those affecting predictors of religious involvement. The present study found no gender differences. Specifically, a female-male ratio was imputed as a moderator, for which results showed no significant results, $p > .05$. Future research should continue to explore gender differences in religion on workplace-related outcomes.

Conclusion

The present study is unique in that empirically analyzed multiple studies that measured religiosity or spirituality on workplace-related outcomes. The present study used a random-effects model for meta-analytic inquiry which took in consideration between-study heterogeneity. A subgroup fixed effects (plural) model was utilized to detect differences between subgroups. Additionally, the present study examined the effect of gender on the meta-analytic effect sizes and found no significant effect of gender. An expansive set of publication bias analyses were conducted, with careful effort to provide a holistic measure by using a variety of techniques including, trim-and-fill, funnel plot analyses, fail-safe N).

Research shows religion and spirituality (RS) are vital coping resources, increasing an individual's likelihood to bear sub-optimal work-related experiences. Additionally, religion and spirituality are associated with decrease physiological stressors and physiological stress-induced

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diseases including reduced coronary heart disease. It becomes apparent that RS are crucial variables of interest for immediate application to the employees in the workplace. The results of the present study show religiosity has a larger effect on job satisfaction outcomes than does general measures of spirituality. The positive correlation between RS and workplace-relevant outcomes suggest workplace supervisors and managers should take enact policy that promotes free expression of employee's religiosity. Some suggestions reinforced in the literature (Saeed et al., 2007) include allocating prayer rooms and meditation rooms for use by religious and spiritual individuals.

The results of this study maintain that RS is positive small to moderate predictor of three workplace-related outcomes (i.e. job satisfaction, job performance, and organizational citizenship behaviors). Individuals are more likely to report greater levels of workplace-related outcomes if they are allowed to engage in religious and/or spiritual expressions stemmed from their own deeply held faiths. The present study found no statistical difference between religion and spirituality on all three outcomes. The present study affords a high amount of empirical rigor to the religion and spirituality literature. Additionally, this study confirms the positive relationship of both religion and spirituality as small to moderate predictors of job satisfaction, job performance, and OCBs; the findings show that religion and spirituality are equally competent predictors of these workplace outcomes.

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Appendix A: Protestant Work Ethic (Hassan, 1937)

1. Science is man's best tool for controlling nature.
2. The more scientists learn the less it makes sense to believe in a personal God.
3. Although the things may be pretty hard in this life, they will get better in the next.
4. God sends earthquakes, hunger, floods and war to punish nations for wrong actions.
5. Illness comes to people because they disobey God's commandments.
6. Science hasn't found anything that hasn't already been revealed by God.
7. The Bible's account of the creation of the world is the only true one.
8. A person's pay scale should depend partly on his education.
9. Every man has a responsibility to do the best work that he can.
10. God has put us on earth so we can use science to glorify him.
11. Science is just another way that God works his will.
12. Belief in a personal God becomes less and less reasonable as science discovers more about nature.
13. It is great comfort to know that God never fails even when everything seems to go wrong.
14. Belief in God is a sign that a man isn't taking responsibility for his own life.
15. I can't make sense out of the world except by believing in God.
16. Man is responsible to God.
17. We were made for fellowship with God and our hearts will be restless until they rest in Him.
18. I believe that men working and thinking together can build a good society without calling for the help of God.

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19. God knows our thoughts before we speak them. He is acquainted with all our ways.
20. Without religion the world wouldn't be as civilized as it is.
21. Success depends more on luck than on ability.
22. There is not much sense in trying very hard to get ahead.
23. Everyone should strive to be successful.
24. Everyone should mind his own business.
25. I set high goals for myself and try reach them.
26. Everyone should handle his own problems as he and let everyone else handle their problems any way they want to.
27. A man ought to limit the size of his family so he can provide the best that he can for his children.
28. It is amazing how prayer influences the way things turn out.
29. There is no such thing as good luck; luck is what a man makes for himself.
30. Eat, drink, and make merry is a good way of life for the present day.
31. Good things are worth saving for.
32. If you sacrifice today, you will be rewarded tomorrow.
34. Life is short; so, we should enjoy it while we can.
35. A hungry man has a right to steal.
36. The way the world is today [a] wise man lives for today and lets tomorrow take care of itself.
37. In order to get anywhere you have to plan your life.
38. A man should have enough insurance to take care of his family in case he dies.

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39. A man should save part of his paycheck on payday.
40. Hard work, thrift, sobriety, and responsible behavior are necessary for success.
41. Planning only makes a person unhappy since plans hardly ever work out anyway.
42. A high school education is worth all the time and effort it takes to get it.
43. A person can plan his future so everything will come out all right in the long run.
44. In business, you can only trust friends and relatives.
45. A man should not go into debt.
46. Waste not, want not.
47. A man should spend more than he makes.

Appendix B: Allport's Extrinsic Religiosity (Allport, 1972)

1. What religion offers me most is comfort when sorrows and misfortune strike.
2. One reason for my being a church member is that such membership helps to establish a person in the community.
3. The purpose of prayer is to secure a happy and peaceful life
4. It doesn't matter so much what I believe so long as I lead a moral life.
5. Although I am a religious person, I refuse to let religious considerations influence my everyday affairs.
6. The church is most important as a place to formulate good social relationships.
7. Although I believe in my religion, I feel there are many more important things in my life.
8. I pray chiefly because I have been taught to pray.
9. A primary reason for my interest in religion is that my church is a congenial social activity.
10. Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being.
11. The primary purpose of prayer is to gain relief and protection.

Appendix C: Religious Commitment Inventory (RCI-10; Worthington et al., 2003)

Latent factors: Intrapersonal religious commitment; interpersonal religious commitment

1. I often read books and magazines about my faith. *Intrapersonal (.59)*
2. I make financial contributions to my religious organization. *Interpersonal (.62)*
3. I spend time trying to grow in understanding of my faith. *Intrapersonal (.78)*
4. Religion is especially important to me because it answers many questions about the meaning of life. *Intrapersonal (.66)*
5. My religious belief lies behind my whole approach to life. *Intrapersonal (.81)*
6. I enjoy spending time with others of my religious affiliation. *Interpersonal (.73)*
7. Religious beliefs influence all my dealings in life. *Interpersonal (.67)*
8. It is important to me to spend periods of time in private religious thought and reflection. *Intrapersonal (.76)*
9. I enjoy working in the activities of my religious affiliation. *Interpersonal (.83)*
- 10 I keep well informed about my local religious group and have some influence in its decisions. *Interpersonal (.73)*

Appendix D: Faith at Work Scale (Lynn et al., 2009)

1. I sense God's presence while I work.
2. I view my work as a partnership with God.
3. I think of my work as having eternal significance.
4. I see connections between my worship and my work.
5. My faith helps me deal with difficult work relationships.
6. I view my work as a mission from God.
7. I sense that God empowers me to do good things at work.
8. I pursue excellence in my work because of my faith.
9. I believe God wants me to develop my abilities and talents at work.
10. I view my coworkers as being made in the image of God.
11. My coworkers know that I am a person of faith
12. I sacrificially love the people I work with.
13. When I am with others and alone, I practice purity in my work habits
14. I view my work as part of God's plan to care for the needs of people.
15. I view myself as a caretaker, not an owner of my money, time, and resources

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Appendix E: Attachment to God Scale (Rowatt & Kirkpatrick, 2002)

Factor loading, Avoidance Dimension= .92

Factor loading, Anxiety Dimension = .80

Factor and factor loading	Complete wording
Avoidance Dimension (.83)	God seems important to me.
Avoidance Dimension (.82)	God seems to have little or no interest in my personal problems.
Avoidance Dimension (.81)	God seems to have little to no interest in my personal affairs.
Avoidance Dimension (-.87)	I have a warm relationship with God.
Avoidance Dimension (-.86)	God knows when I need support.
Avoidance Dimension (-.83)	I feel that God is generally responsive to me.
Anxiety Dimension (.94)	God sometimes seems responsive to my needs, but sometimes not.
Anxiety Dimension (.74)	God's reactions to me seem to be inconsistent.

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Anxiety dimension (.74)	God sometimes seems very warm and other times very cold to me.
-------------------------	---

Appendix F: Islamic Religiosity Scale (Ehsan & Task, 2004)

Not full scale: Items originally written in Persian.

“I admire benevolent people,”

“In hard times I ask God for help,”

“By relying on God, one can conquer his/her problems,”

“I feel God’s presence in my everyday life.”

“It is difficult for me to control my thoughts and feelings,”

“I am never satisfied with what I have,”

“Because I have too many problems myself, I am unable to help anyone,”

“For me life is a meaningless event.”

“Prosperity can only be achieved through religion,”

“I never allow anyone to speak behind anyone else’s back,”

“I do not remember to have ever lied,”

“I consider myself a devout religious person.”

“The goal in life is solely to acquire joy,”

“One must enjoy life’s opportunities because who knows what is going to happen tomorrow,”

“For me, knowledge, wealth and fortune, and power are fundamental values in life,”

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“In my opinion, religion fosters superstitions.”

Appendix G: Honoring God in Work (Neubert et al., 2000)

1. When we are creative, we honor God by acting according to God's character.
2. I work very hard to do my best out of gratitude to God for his blessings.
3. My work honors God.

Appendix H: Islamic Work Ethic (Ali, 2003)

1. Laziness is a vice.
2. Dedication to work is a virtue.
3. Good work benefits both one's self and others.
4. Justice and generosity in the workplace are necessary conditions for society's welfare.
5. Producing more than enough to meet one's personal needs contributes to the prosperity of society as a whole.
6. One should carry work out to the best of one's ability
7. Work is not an end in itself but a means to foster personal growth and social relations.
8. Life has no meaning without work
9. More leisure time is good for society.
10. Human relations in organizations should be emphasized and encouraged
11. Work enables a person to control nature.
12. Creative work is a source of happiness and accomplishment
13. Any person who works is more likely to get ahead in life.
14. Work gives one the chance to be independent.
15. A successful person is the one who meets deadlines at work.
16. One should constantly work hard to meet responsibilities.
17. The value of work is derived from the accompanying intention rather than its results.

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Appendix I: Workplace Spirituality (Ashmos & Duchon, 2000)

*Full scale contains three subscales

Meaningful Work subscale, $\alpha = .858$

1. I experience joy in my work.
2. I believe others experience joy as a result of my work.
5. My spirit is energized by my work.
8. The work I do is connected to what I think is important in life.
9. I look forward to coming to work most days.
10. I see a connection between my work and the larger social good of my community
14. I understand what gives my work personal meaning.

Inner Life Subscale, $\alpha = .804$

23. I feel hopeful about life.
24. My spiritual values influence the choices I make.
25. I consider myself a spiritual person.
27. Prayer is an important part of my life.
28. I care about the spiritual health of my coworkers.

Appendix J: Spiritual Well-being Scale (Ellison, 1983)

1. I don't find much satisfaction in private prayer with God.
2. I don't know who I am, where I came from, or where I'm going.
3. I believe that God loves me and cares about me.
4. I feel that life is a positive experience.
5. I believe that God is impersonal and not interested in my daily situations.
6. I feel unsettled about my future.
7. I have a personally meaningful relationship with God.
8. I feel very fulfilled and satisfied with life.
9. I don't get much personal strength and support from my God.
10. I feel a sense of well-being about the direction my life is headed in.
11. I believe that God is concerned about my problems.
12. I don't enjoy much about life.
13. I don't have a personally satisfying relationship with God.
14. I feel good about my future.
15. My relationship with God helps me not to feel lonely.
16. I feel that life is full of conflict and unhappiness.
17. I feel most fulfilled when I'm in close communion with God.
18. Life doesn't have much meaning.
19. My relation with God contributes to my sense of well-being.

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20. I believe there is some real purpose for my life.

Appendix K: JAREL Spiritual Well Being (Hungelman et al., 1987)

(Strongly agree to Strongly disagree)

1. Prayer is an important part of my life.
2. I believe I have spiritual well-being.
3. As I grow older, I find myself more tolerant of other's beliefs.
4. I find meaning and purpose in my life.
5. I feel there is a close relationship between my spiritual beliefs and what I do.
6. I believe in an afterlife.
7. When I am sick, I have less spiritual well-being.
8. I believe in a supreme power.
9. I am able to receive and give love to others.
10. I am satisfied with my life.
11. I set goals for myself.
12. God has little meaning in my life.
13. I am satisfied with the way I am using my abilities.
14. Prayer does not help me in making decisions.
15. I am able to appreciate differences in others.
16. I am pretty well put together.
17. I prefer that others make decisions for me.
18. I find it hard to forgive others.

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19. I accept my life situations.

20. Belief in a supreme being has no part in my life.

21. I cannot accept change in my life.

Appendix L: Spiritual Intelligence Self Report Inventory (King, 2008)

1. I have often questioned or pondered the nature of reality.
2. I recognize aspects of myself that are deeper than my physical body.
3. I have spent time contemplating the purpose or reason for my existence.
4. I am able to enter higher states of consciousness or awareness.
5. I am able to deeply contemplate what happens after death.
6. It is difficult for me to sense anything other than the physical and material.
7. My ability to find meaning and purpose in life helps me adapt to stressful situations.
8. I can control when I enter higher states of consciousness or awareness.
9. I have developed my own theories about such things as life, death, reality, and existence.
10. I am aware of a deeper connection between myself and other people.
11. I am able to define a purpose or reason for my life.
12. I am able to move freely between levels of consciousness or awareness.
13. I frequently contemplate the meaning of events in my life.
14. I define myself by my deeper, non-physical self.
15. When I experience a failure, I am still able to find meaning in it.
16. I often see issues and choices more clearly while in higher states of
consciousness/awareness.
17. I have often contemplated the relationship between human beings and the rest of the
universe.
18. I am highly aware of the nonmaterial aspects of life.
19. I am able to make decisions according to my purpose in life.

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20. I recognize qualities in people which are more meaningful than their body, personality, or emotions.
21. I have deeply contemplated whether or not there is some greater power or force (e.g. god, goddess, divine being, higher energy, etc.)
22. Recognizing the nonmaterial aspects of life helps me feel centered.
23. I am able to find meaning and purpose in my everyday experiences.
24. I have developed my own techniques to entering higher states of consciousness or awareness.

Appendix M: Email Contact

SUBJECT: Islamic Religiosity Request

Good evening Dr. Ehsan,

I am conducting a meta-analysis for a thesis at my University and would like to know if you could provide me, by email, with a copy of the 64 item Islamic Religiosity Scale (also known as the Religious Orientation Scale).

This would aid my investigation tremendously.

Sincerely yours,

Juan Balcazar

St. Mary's University

Appendix N: Documentation for supplementary analyses in R (Harrer et al., 2019)

Documentation for Egger's test for funnel plot asymmetry

```
library(dmetar)
```

```
eggers.test(x = m.cor)
```

```
egg <- eggers.test(x = m.cor)
```

Documentation for Rosenthal's Fail-safe N:

```
library(metafor)
```

```
# sei #
```

```
sei <- m.cor[["seTE"]]
```

```
yi <- m.cor[["TE"]]
```

```
fsn(yi,sei, data=OCBdata, type="Rosenthal")
```

Documentation for Pre-visualization funnel plot

```
library (meta)  
  
funnel(m.cor, xlab="Effect size r")
```

Documentation for trim and fill

```
#Pub bias trim and fill,  
  
library(meta)  
  
trimfill(m.cor)  
  
#compare to random effect meta  
  
m.cor$TE.random  
  
# Final funnel with trimfill  
  
m.cor.trimfill<-trimfill(m.cor)  
  
funnel(m.cor.trimfill,xlab = "Effect size r")
```


Appendix O: Documentation for Hypothesis testing (Harrer et al., 2019)

Documentation for pooled effect size (random-effects model)

```
library(meta)

m.cor <- metacor(cor,

  n,

  data = JSdata,

  studlab = JSdata$Author,

  sm = "ZCOR",

  method.tau = "SJ",

  comb.fixed = FALSE,

  comb.random = TRUE,

  hakn = TRUE)
```

Documentation for outlier test (test of confidence intervals)

```
library(meta)

library (dmetar)

find.outliers(m.cor)

#forest for outliers (pooled)

nosub <- find.outliers(m.cor)
```

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```
forest(nosub,  
      xlab = "Effect size r")
```

Documentation for subgroup analysis:

```
library(dmetar)  
library(meta)  
subgroup.analysis.mixed.effects(x = m.cor,  
                                subgroups = JSdata$Subgroup)  
sub <- subgroup.analysis.mixed.effects(x = m.cor,  
                                       subgroups = JSdata$Subgroup)  
forest(sub)
```

