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When every innovation is misguidance, and every misguidance is in hell: The relationship between religious fundamentalism and creativity

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ABSTRACT

In spite of its importance, religious individual level differences have not received sufficient attention in the creativity literature. This study investigates the relationship between religious fundamentalism and individual creativity. It also examines the mediating role of need for cognition in this relationship. A sample of 272 Egyptian undergraduate students completed a questionnaire measuring their religious fundamentalism and need for cognition levels. To measure creativity, participants were asked to name creative methods for using a brick and a paperclip. Hierarchical multiple regression, Sobel test, and structural equation modeling confirmed that religious fundamentalism is negatively related to creativity, and that need for cognition partially mediates this relationship.

1. Introduction

Research on individual differences in creativity is substantial, where most of it has focused on personality, demographics, cognition, and values as key determinants of creativity (Hennessey & Amabile, 2010). Although this research has been very useful in advancing our knowledge of creativity, it has a number of limitations. First, most of this research has been conducted in Western countries. As individual differences are subject to environmental influences, it is possible that the results of Western studies on creativity may not extend or generalize to non-Western or developing countries. This is a problem because the prosperity of developing countries may rest on the creativity of their working forces (Williams & McGuire, 2010). Second, most of the research has focused on the factors that positively impact individual creativity, where a few focused on the impediments or the factors that negatively impact creativity. As a result, Hennessey and Amabile (2010) have called on researchers to study the inhibitors of creativity. Third, published studies on creativity have not directly examined the role of religious beliefs. These beliefs can have important cognitive, emotional, motivational and societal effects on creativity. Neglecting these effects, may lead to an incomplete understanding of the role of religious individual differences on creativity.

Religious fundamentalism (RF) is on the rise worldwide (Emerson & Hartman, 2006). Altemeyer and Hunsberger (1992, p. 118) defined RF as a "belief that there is one set of religious teachings that clearly contains…the truth; that this essential truth is fundamentally opposed by forces of evil which must be vigorously faught; that this truth must be followed today according to the fundamental, unchangeable practices of the past..,". RF has been linked to the rise of global terrorism and religious violence around the world, especially in the Middle East. Fundamentalists not only have significant influence on governments, but more importantly shape the minds and hearts of many social groups.

The term RF was first coined in the early twentieth century to describe American conservative Protestent movements that attempted to defend the Bible from criticism stemming from evolution theory and scientific discoveries (Farley, 2005). Since that time, the term has been used broadly to describe any religious group that is aggressively anti-modern and tradition-preserving. Specifically, RF is a movement opposing the rise of science, liberalism and modernism as nemesis of religion and promoters of sin that must be resisted (Emerson & Hartman, 2006). Fundamentalists, across religions, believe that their sacred universal truth (taking into consideration the differences in the perception of this truth) is under threat from other movements and to sustain and protect this truth they have to have a high amount of discipline, order, and conformity (Sargisson, 2007; Williamson, Hood, Ahmad, Sadiq, & Hill, 2010). Wamser, Vandenberg, and Hibberd (2011) explained that religious fundamentalism is an ideology where individuals tend to reject those who do not share their own beliefs. Fundamentalists may differ in practices or specific beliefs, but they have two things in common; they believe that their beliefs are infallible and they do not seek information from non-religious sources.

In spite of its importance, RF has not received much attention in the creativity literature. The purpose of this study is to investigate the relationship between RF and creativity in Egypt. Additionally, the study will

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focus on need for cognition (NFC) as a possible mediating mechanism between RF and creativity. This study may be important for several reasons. First, it extends research on individual differences in creativity to a new domain; religious beliefs. Religious beliefs play a major role in shaping our thoughts, emotions, motivation and behaviors (Saroglou, 2014). It is possible that RF is an impediment to creativity. Second, by investigating the mediating role of NFC in this relationship, we may be able to partially explain why RF affects creativity. Third, the data for this study is collected in Egypt which is considered a developing Arab-African country with a relatively high RF among its Muslim youth (Moaddel & Karabenick, 2008). Some Muslim RF leaders have made *fatawas* that expand Prophet Mohamad's statement that "every innovation is misguidance, and every misguidance is in hell" to not only include religious innovations but also to include innovation and creativity in many domains of life. Muslim RF has rarely been studied from a psychological perspective. Fourth, this is the first study to provide evidence of the factor structure validity of the RF and NFC scales in an Arab country.

The most common definition of creativity is the ability to produce an idea or a product that is both novel and useful (Batey, Cahmorro-Pemuzic, & Furnham, 2010; Furnham & Bachtiar, 2008). A widely used measure of creativity is divergent thinking (DT) (Batey, 2012). DT is the ability to come up with different and unique solutions to a problem, taking into consideration certain boundaries such as limited resources (Glazer, 2009). Individuals high on DT have higher creative potential (Runco & Selcuk, 2012). Recent neurological research has shown that DT is associated with increased left hemisphere activity, which is the area responsible for processing original ideas and associations (Yoruk & Runco, 2014).

Research has shown that creativity is negatively related to authoritarianism (Rubinstein, 2003), conservatism (Dollinger, 2007), and dogmatism (Lohman, 2010). Authoritarianism, conservatism and dogma are related in that they describe a belief system that is inflexible, intolerant of new ideas and encourages conformity to traditions and authority; in brief, close-minded.

Unlike creativity, RF is positively related to dogmatism (Altemeyer,1996), conservatism (Brandt & Reyna, 2014), and authoritarianism (Altemeyer, 2005; Johnson et al., 2011). Altemeyer (1996) has suggested that RF may be a measure of religious authoritarianism. However, recent research has shown that RF may be an antecedent of authoritarianism (Hathcoat & Barnes, 2010).

Early research on the relationship between RF and personality has conceptualized it as a personality trait (Costa, Zonderman, McCrae, & Williams, 1985). Later research began to examine the relationship between RF and the Big Five factors. Results showed that RF was negatively related to Openness to Experience and Neuroticism, but positive with Agreeableness (Saroglou, 2002). However, Krauss, Streib, Keller, and Silver (2006) have noted that the effect sizes are so small that it is possible to conclude that RF is independent of personality.

Recent research in neuropsychology have also showed that RF is related to damage in the prefrontal cortex, which is the area of the brain responsible for doubt, skepticism and conformity (Asp, Ramchandran, & Tranel, 2012). According to Asp and colleagues, the prefrontal cortex "is critical in mediating doubt, and thus damage to the prefrontal cortex should result in a "doubt deficit" (2012, p.418). Saroglou, Corneille, and Van Cappellen (2009) have provided experimental evidence that religiousness is related to increased submissiveness and conformity.

Another line of research has examined RF cognition hypothesizing that RF is negatively related to integrative complexity of thought (Hunsberger, Pratt, & Pancer, 1994; Pancer, Jackson, Hunsberger, Pratt, & Lea, 1995). Individuals high on integrative complexity use multiple (differentiated) sources of information and at the same time attempt to integrate or link them. Contrary to their hypothesis, Hunsberger et al. (1994) have found that there was no significant difference in general integrative complexity between high and low RF. However, when they examined specifically existential issues such as life and death, they found a negative relationship between RF and integrative complexity. Hunsberger and his colleagues attributed this negative relationship to the combination of two RF characteristics; fear of issues that threaten their ideology and self-righteousness. In other words, individuals high on RF use simple thinking as an ego defensive mechanism. An implication of the finding is that integrative complexity is domain specific and that fundamentalism does not necessarily attract simple-minded individuals. Pancer et al. (1995) replicated the same results using two experimental studies.

Researchers have also linked RF to need for closure, which is an "individual's desire for a firm answer to a question, any firm answer as opposed to confusion and/or ambiguity" (Kruglanski, 2004, p.6). Need for closure is related to integrative complexity, closed mindedness and uncertainty avoidances (Webster & Kruglanski, 1994). Individuals high on need for closure prefer clear information that confirms their epistemological beliefs. Brandt and Reyna (2010) showed that RF is positively related to need for closure; however they measured need for closure with a single item. Measuring it with a more robust 42-item scale, Gribbins and Vandenberg (2011) did not find a significant relationship between them.

Another need that is similar to need for closure is NFC, which is defined as the enjoyment of thinking (Cacioppo & Petty, 1982). Individuals who are high on NFC have positive attitudes towards complex problem solving, reasoning and enjoy information acquisition (Tuten & Bosnjak, 2001). The need for cognition is inversely related to dogmatism; where an individual with high need for cognition refuses to be tied to a certain set of rules and is more open-minded. Non-dogmatic people make more innovative choices than dogmatic people (Meyers-Levy & Tybout, 1989). The need for cognition is also positively related to risk taking and intrinsic motivation, which are main factors crucial for creativity (Lin, Yen, & Chaung, 2006). Hill, Terell, Cohen, and Nagoshi (2010) have showed that RF is negatively related to NFC.

There has been no research on the relationship between RF and creativity. From the above literature, it appears that RF is associated with personality dimensions, neurological conditions, and belief systems such as authoritarianism, dogma, conservatism that may retard DT, which is a critical component of creativity. From this literature, we can also deduct that the relationship between RF and creativity is mediated by several close-minded cognitive styles including NFC. However while some studies indicate that this style is specific just to the religious domain, most studies provide evidence of a more generalizable effect. As such, we hypothesize the following:

H1. There is a negative relationship between religious fundamentalism and creativity as divergent thinking.

H2. Need for cognition partially mediates the relationship between religious fundamentalism and creativity as divergent thinking.

2. Methodology

2.1. Participants

Two hundred and seventy two undergraduate students attending a bachelor in business administration program at a private Egyptian university participated in this study. The sample was composed of 59% female, 41% male with an average age of 20.9. In the sample, 81% identified themselves as Muslim, 11% as Christian, and 9% as other. To assure students' freedom to participate, they were contacted in the cafeteria and not in their classrooms. Students were informed that the study was about creativity, and that participation would be rewarded with a small gift. Those who agreed to participate were taken to a quiet room to complete the scales.