

Furthering the Evolution of Discussion on Religion:
Multi-Method Study, Universality, and Cultural Variation

Adam B. Cohen

Arizona State University

Peter C. Hill

Rosemead School of Psychology, Biola University

Azim F. Shariff

University of British Columbia

Paul Rozin

University of Pennsylvania

Corresponding author:

Adam B. Cohen

Department of Psychology

Arizona State University

PO Box 871104

Tempe, AZ 85287-1104

Email: adamcohen@asu.edu

Phone: (480) 965-7345

Fax: (480) 965-8544

We gratefully acknowledge the support of a Templeton Advanced Research Program grant, sponsored by the Metanexus Institute on Science and Religion. The views expressed do not necessarily represent those of Metanexus or Templeton.

Furthering the Evolution of Discussion on Religion:
Multi-Method Study, Universality, and Cultural Variation

Though long acknowledged on a descriptive level, the multidimensionality of religious experience has only recently been furthered empirically (Hill & Hood, 1999a; Hill & Pargament, 2003). Many researchers now believe that numerous aspects of religion have different brain modules subserving them. Perhaps best articulated by Boyer (2001), such mental systems include goal and agency detection, theory of mind, social relations, fear of contagion, detection of emotional states, moral judgment, imaginary companions, social exchange, and altered states (c.f. Kirkpatrick, 1995; Whitehouse, 2004). These systems give rise to as diverse a set of religious ideas and practices as ritual; believing in supernatural agents; sacredness and taboo; and mystical experiences. Such analyses provide the basis for our suggestions in this chapter. First, we argue that we need to study religion in a multi-method way. Second, we argue that domains of religion vary across cultures in evolutionarily and culturally important ways.

Multi-Method Study of a Multidimensional Phenomenon

Many theorists and investigators focus their discussion of religion on one dimension, belief in supernatural agents (e.g. Barrett & Keil, 1996; Dawkins, 2006). In a fascinating description of belief in supernatural agents, Boyer (2001) explained “Religious representations are particular combinations of mental representations that satisfy two conditions. First, the religious concepts *violate* certain expectations from ontological categories. Second, they *preserve* other expectations” (p. 62, italics in original). For example, people who believe in ghosts usually maintain that ghosts have certain features of a person (they have personalities, perceptions), but can also pass through walls and are weightless.

This theoretical analysis raises the interesting question of the cognitive structure of

beliefs about supernatural agents. Do our minds have one module for processing the physics of the natural world, and another module for supernatural agents? This seems like a cumbersome system to engineer. There are various theoretical perspectives on whether religious beliefs are explicit, implicit, emotional, or rational. Some evidence suggests that people have one set of beliefs at the explicit, conscious level, and a different system of beliefs at the intuitive level. Barrett and Keil (1996) demonstrated that people's explicit religious schemata may be theologically correct, but their implicit schemata may not. Participants who hear that God responded to prayers from two individuals at once will explicitly report that God is both omniscient and omnipresent, and is therefore capable of such an accomplishment. However, when later recounting the story, it becomes apparent that people's implicit schemata led them to process the story as God helping one person *and then* the other.

William James' view of pragmatism would suggest that some people explicitly choose their belief in religion. James (1907/2003) explained "The pragmatic method is primarily a method of settling metaphysical disputes that otherwise might be interminable...The pragmatic method in such cases is to try to interpret each notion by tracing its respective practical consequences" (p. 23). Later, considering whether salvation is real, James continued: "Here I take the bull by the horns, and in spite of the whole crew of rationalists and monists, of whatever brand they may be, I ask why not?" (p. 144).

A different theoretical perspective comes from Epstein (1994), who distinguished between rational and experiential cognitive processes. The experiential system operates more automatically than the rational system, and can be the source of intuition and creativity. The rational system is more deliberative and abstract. He argued that "Religion provides perhaps the most impressive evidence of all that there are two fundamentally different modes of processing

information...For many individuals, rational, analytical thinking fails to provide as satisfactory a way of understanding the world and of directing their behavior in it as does religious teaching...religion is better suited than analytical thinking for communicating with the experiential system” (p. 712). Of interest, several scholars have noted the transition in American religion as increasingly based on emotional and experiential criteria (reviewed in Cohen, Hall, Koenig, & Meador, 2005).

These perspectives may suggest that religious beliefs and schemata can operate differently at implicit and explicit levels. Some religions place disincentives on the expression, and even ideation, of religious doubt. When an individual perceives the welfare of one’s soul as depending on faith, there is strong motivation to minimize one’s religious doubts, even to oneself (Edwards & Hall, 2003; Hill & Hood, 1999b). As a consequence, a discontinuity could emerge between what these individuals allow themselves to consciously believe, and the doubts that they keep suppressed.

Another possibility is that people are unwilling to report certain explicit religious beliefs or doubts. Religious beliefs are often maintained in social environments where individuals may feel obligated to report certain beliefs (Burriss & Navara, 2002). Under such conditions, subjects’ willingness and ability to accurately self-report may be vulnerable to demand characteristics, evaluation apprehension, and impression management (Greenberg et al., 2002).

Psychology of religion’s reliance on self-report measures has rendered it largely incapable of tapping implicit beliefs or beliefs that people do not wish to report. New research techniques need to be developed which can distinguish beliefs at different levels of cognition, and which will not depend on people’s willingness or ability to report their beliefs. One set of promising avenues include reaction time based studies. Cohen, Shariff and Hill (2007) have

developed a reaction time task in which participants classify stimuli as real or imaginary as quickly as they can, and faster reaction times seem to correspond to more confidence in ratings. Variations of such techniques could be developed to tap implicit beliefs as well. Gibson (2005) reported a host of reaction time studies, including versions of a religious Stroop test. Behavioral economics experiments are another avenue. Shariff and Norenzayan (in press) showed that participants who were subtly primed with religion became more behaviorally altruistic. Another interesting possibility could be free association techniques. Pioneered by Freud, free association has fallen by the wayside. But free associations appear to possess some of the advantages proposed by Freud, such as not being quite as rationally considered as explicitly reported attitudes (Rozin, Kurzer, & Cohen, 2002). Last, physiological studies could greatly enrich our understanding of religion (e.g. Newberg & Newberg, 2005).

Universality and Variability

A multiple systems model of religion also has implications for questions surrounding universality. Some seem to suggest that, if an aspect of religion is evolved, it should show up in all cultures. Many theorists point to the universality of supernatural agents because beliefs about ghosts, ancestors, souls, gods, or God occur in all cultures (e.g. Atran & Norenzayan, 2004; Bering, 2006; Boyer, 2001; Tremblin, 2006).

Universality is informative in evolutionary analyses, but this is not to say that there is not meaningful cultural variability, and even evolved differences between cultures long separated. The notion of cultural universals is somewhat controversial within evolutionary and cultural psychology and anthropology. The logical and empirical requirements for documenting a human universal have often been ignored, though criteria have been proposed (Brown, 1991; Norenzayan & Heine, 2005). There may be some benefits, but also some costs, of lumping

together very different kinds of beliefs about very different kinds of agents, such as ghosts, gods, God, and souls. We propose that cultural differences can be as informative, and as consistent with evolutionary approaches, as universals.

Human behavior represents a continual, dynamic interplay between flexible, evolved mechanisms interacting with ecological inputs that vary in different environments (Kenrick, Maner, Butner, Li, Becker, & Schaller, 2002; Rozin, 2000; Tooby & Cosmides, 1990). Norms concerning mating systems provide one illustration. Some religions and cultures prescribe monogamy, some polygyny, and a small percentage polyandry. Are we to conclude that mating systems are not evolved strategies because they vary? That would not be appropriate because, in humans and other animals, variations in mating systems correlate predictably with physical and social ecology (Crook & Crook, 1988; Orians, 1969).

If religion involves numerous mental systems, it is likely that different selection pressures shaped different components. Perhaps some of these systems are more adaptive in some ecological conditions or cultural contexts more than others. Therefore, it seems likely that some components of religion will be more salient in some cultures (Cohen, Kenrick, & Li, 2006; Sosis & Alcorta, 2003). For example, concepts of warrior-like, jealous Gods are more prevalent in religions that originated in harsh, desert environments in which resources are scarce and unpredictable, whereas other concepts (polytheistic beliefs) are more prevalent in lush rainforests with plentiful resources (Textor, 1967).

What is known about dimensions of variability in components of religion? Relevant to discussions about religion promoting social cohesion or group selection (Atran & Norenzayan, 2004; Wilson, 2002), religious cultures differ in the role that personal religious beliefs and community integration play in the formation of religious identity (Cohen, Siegel, & Rozin, 2003;

Cohen, et al., 2005; Cohen & Hill, in press; Morris, 1997). And even if religions share some of the same ultimate goals (e.g. group cohesion), they accomplish them in very different ways, which both reflect and shape cultural and ecological differences (Wilson, 2002). Religious variability is therefore ripe for evolutionary analysis, both biological and cultural.

Summary

Evolutionary approaches to religion have resulted in great strides in understanding the different mental systems that subserve aspects of religious belief, emotion, and practice. We suggest several avenues for future research based on this theoretical platform. Research that enables us to supplement self-reports will provide a richer understanding of various aspects of religious cognition. And, more attention to cultural variability will help us understand how ecology and cultural context shapes and is shaped by the evolution of different components of religion.

References

- Atran, S., & Norenzayan, A. (2004). Religion's evolutionary landscape: Counterintuition, commitment, compassion, communion. *Behavioral and Brain Sciences*, *27*, 713-770.
- Barrett, J. L., & Keil, F. C. (1996). Conceptualizing a nonnatural entity: Anthropomorphism in God concepts. *Cognitive Psychology*, *31*, 219-247.
- Bering, J. M. (2006). The folk psychology of souls. *Behavioral and Brain Sciences*, *29*, 453-498.
- Boyer, P. (2001). *Religion explained: The evolutionary origins of religious thought*. Basic Books.
- Brown, D. E. (1991). *Human universals*. New York: McGraw-Hill.
- Burris, C. T., & Navara, G. S. (2002). Morality play – or playing morality: Intrinsic religious orientation and socially desirable responding. *Self and Identity*, *1*, 67-76.
- Cohen, A.B. (2002). The importance of spirituality in the well-being of Jews and Christians. *Journal of Happiness Studies*, *3*, 287-310.
- Cohen, A. B., Hall, D. E., Koenig, H. G., & Meador, K. (2005). Social versus individual motivation: Implications for normative definitions of religious orientation. *Personality & Social Psychology Review*, *9*, 48-61.
- Cohen, A. B., & Hill, P. C. (In press). Religion as culture: Religious individualism and collectivism among American Catholics, Jews, and Protestants. *Journal of Personality*.
- Cohen, A. B., Kenrick, D. T., & Li, Y. J. (2006). Ecological variability and religious belief [Commentary]. *Behavioral and Brain Sciences*, *29*, 468.
- Cohen, A. B., Shariff, A. F., & Hill, P. C. (2007). *The accessibility of religious beliefs*. Manuscript submitted for publication.

Cohen, A. B., Siegel, J. I., & Rozin, P. (2003). Faith versus practice: Different bases for religiosity judgments by Jews and Protestants. *European Journal of Social Psychology, 33*, 287-295.

Crook, J.H., & Crook, S.J. (1988). Tibetan polyandry: Problems of adaptation and fitness. In L. Betzig, M. Borgerhoff-Mulder & P. Turke (Eds.), *Human reproductive behavior: A Darwinian Perspective*. (pp. 97-114). Cambridge: Cambridge University Press.

Dawkins, R. (2006). *The God delusion*. Boston: Houghton Mifflin.

Edwards, K. J., & Hall, T. W. (2003). Illusory spiritual health: The role of defensiveness in understanding and assessing spiritual health. In T. W. Hall & M. R. McMinn (Eds.), *Spiritual formation, counseling, and psychotherapy* (pp. 261-275). Hauppauge, NY: Nova Science Publishers.

Epstein, S. (1994). Integration of the cognitive and the psychodynamic unconscious. *American Psychologist, 49*, 709-724.

Gibson, N. J. S. (2005). The experimental investigation of religious cognition. Unpublished doctoral dissertation. Cambridge University, Cambridge, England.

Greenwald, A. G., Banaji, M. R., Rudman, L. A., Farnham, S. D., Nosek, B. A., & Mellott, D. S. (2002). A unified theory of implicit attitudes, stereotypes, self-esteem, and self-concept. *Psychological Review, 109*, 3-25.

Hill, P. C., & Hood, R. W., Jr. (Eds.) (1999a). *Measures of religiosity*. Birmingham, AL: Religious Education Press.

Hill, P. C., & Hood, R. W., Jr. (1999b). Affect, religion, and unconscious processes. *Journal of Personality, 67*, 1015-1046.

Hill, P. C., & Pargament, K. I. (2003). Advances in the conceptualization and measurement of religion and spirituality: Implications for physical and mental health research. *American Psychologist, 58*, 64-74.

James, W. (2003). *Pragmatism*. New York: Barnes and Noble [Original work published 1907].

Kenrick, D. T., Maner, J.K., Butner, J., Li, N.P., Becker, D.V., & Schaller, M. (2002). Dynamic evolutionary psychology: Mapping the domains of the new interactionist paradigm. *Personality and Social Psychology Review, 6*, 347-356.

Kirkpatrick, L. A. (2005). *Attachment, evolution, and the psychology of religion*. New York: Guilford.

Morris, P. (1997). Communities of assent and descent. *Massah; Journey. Journal of the New Zealand Council of Christians and Jews, 3*, 2-4.

Newberg, A. B., & Newberg, S. K. (2005). The neuropsychology of religious and spiritual experience. In R. F. Paloutzian & C. L. Park (Eds), *Handbook of the psychology of religion and spirituality* (pp. 199-215). New York: Guilford.

Norenzayan, A., & Heine, S. J. (2005). Psychological universals: What are they and how can we know? *Psychological Bulletin, 131*, 763-784.

Orians, G. H. (1969). On the evolution of mating systems in bird and mammals. *American Naturalist, 103*, 589–603.

Rozin, P. (2000). Evolution and adaptation in the understanding of behavior, culture, and mind. *American Behavioral Scientist, 43*, 970-986.

Rozin, P., Kurzer, N., & Cohen, A. B. (2002). Free associations to "food": The effects of gender, generation, and culture. *Journal of Research in Personality, 36*, 419-441.

Shariff, A. F., & Norenzayan, A. (In press). God is watching you: Supernatural agent concepts increase prosocial behavior in an anonymous economic game. *Psychological Science*.

Sosis, R., & Alcorta, C (2003). Signaling, solidarity, and the sacred: The evolution of religious behavior. *Evolutionary Anthropology*, 12, 264-274.

Textor, R. B. (1967). *A cross-cultural summary*. New Haven: HRAF Press.

Tooby, J., & Cosmides, L. (1990). On the universality of human nature and the uniqueness of the individual: The role of genetics and adaptation. *Journal of Personality*, 58, 17-67.

Tremlin, T. (2006). *Minds and gods: The cognitive foundations of religion*. New York: Oxford.

Whitehouse, H. (2004). *Modes of religiosity: A cognitive theory of religious transmission*. Walnut Creek, CA: AltaMira.

Wilson, D. S. (2002). *Darwin's cathedral*. Chicago: University of Chicago.