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# Extending Religion-Health Research to Secular Minorities: Issues and Concerns

**Karen Hwang · Joseph H. Hammer · Ryan T. Cragun**

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**Abstract** Claims about religion's beneficial effects on physical and psychological health have received substantial attention in popular media, but empirical support for these claims is mixed. Many of these claims are tenuous because they fail to address basic methodological issues relating to construct validity, sampling methods or analytical problems. A more conceptual problem has to do with the near universal lack of atheist control samples. While many studies include samples of individuals classified as "low spirituality" or religious "nones", these groups are heterogeneous and contain only a fraction of members who would be considered truly secular. We illustrate the importance of including an atheist control group whenever possible in the religiosity/spirituality and health research and discuss areas for further investigation.

**Keywords** Spirituality · Religion · Atheism · Health · Medical outcomes

## Introduction

In the past two decades hundreds of studies have been published examining the association between religiosity and/or spirituality (R/S) and various indicators of physical and psychological well-being (Waite and Lehrer 2003). A smattering of the published research reveals positive effects of R/S on mental health among population samples of adolescents (Wong et al. 2006), veterans (Chang et al. 2001), and medically compromised older adults (Koenig 2004; Yohannes et al. 2008),as well as improved physical health outcomes among

K. Hwang (✉)
Department of Outcomes Research, Kessler Foundation Research Center, University of Medicine and Dentistry of New Jersey, 1199 Pleasant Valley Way, West Orange, NJ 07052, USA
e-mail: khwang67@verizon.net

J. H. Hammer
Iowa State University, Ames, IA, USA

R. T. Cragun
University of Tampa, Tampa, FL, USA

individuals coping with such conditions as vision loss (Brennan 2004), cancer (Laubmeier et al. 2004; Nairn and Merluzzi 2003), spinal cord injury (Johnstone et al. 2007; Matheis et al. 2006), HIV (Ironson et al. 2006; Vance et al. 2008); and coronary transplant (Harris et al. 1995), among others (see Dyer 2007; Jantos and Kiat 2007; Koenig et al. 2001; Pesut et al. 2008). Although this link has not received universal empirical support (Blumenthal et al. 2007; Powell et al. 2003; Stefanek et al. 2006; Thuné-Boyle et al. 2006), the overall results of the published research appear to indicate a "small" and/or "robust" correlation between R/S and well-being (the emphasis on "small" or "robust" seems to depend on the particular stance of the investigator).

These findings, however, remain highly controversial. Literature reviews conducted by Levin (1994), Levin and Vanderpool (1987) and Miller and Thoreson (2003), and others have cautioned against prematurely assuming a direct link between religiosity and health. Specifically, they argue that the beneficial effects of religiosity on health may be explainable by some combination of factors independent or indirectly associated with religiosity—including the promotion of health-related behavior or the psychosocial rewards of religious rituals or collective activity—so that the purported religiosity-health association is tenuous at best. Sloan and Bagiella (2002) reviewed the literature supporting the association between religiosity and cardiovascular disease and hypertension published in 2000 (Luskin 2000; Koenig et al. 2001). They found, among those studies dealing directly with the research question, significant inaccuracies in both methodology and representation, which they argued undermined the validity of much of the research.

## Problems Within the R/S-Health Literature

The authors discussed above have generally concentrated their critiques of the R/S and health connection in the areas of construct validity, sampling difficulty, and problematic analyses. We review the substantive critiques in each of these areas then add a fourth limitation of the existing research—a lack of atheist control samples—that has not been addressed thus far. Following this, we review extant research on atheists, discuss methodological issues in doing research on atheists, provide implications and future direction for this research, and describe ongoing research.

### *Construct Validity*

What does it mean to be religious? Religiosity is notoriously difficult to define and even harder to measure (Egbert et al. 2004; Hall and Edwards 2002; Hill and Hood 1999). In the absence of a universally accepted and quantifiable definition, many widely cited studies rely on proxy variables, such as church attendance, to measure religiosity. While church attendance might be a convenient and easily measurable indicator of religious behavior, religious behavior is but one dimension of what is meant by "religiosity"—a participation dimension—and one that is problematic as it relates to health, as only relatively healthy individuals are able to attend church. Furthermore, researchers have found evidence that self-presentation bias among church-goers results in overestimation of actual attendance rates (Hadaway et al. 1998; Presser and Stinson 1998). People also attend church services for a variety of reasons—e.g. for the social network or out of familial obligation—not always having to do with actual worship (Hoge 1981); Sherkat (2008) found that 10% of Americans who do not believe in a god attend religious services weekly, not out of religious devotion, but rather for pragmatic reasons, like preserving familial harmony or to maintain a circle of friendships (Wulff 1997).

The bulk of the existing research on the R/S and health connection has also concentrated largely on followers of mainstream Jewish and Christian faiths, with little attention devoted to adherents of minority religions (Kier and Davenport 2004). Sloan (2006) suggests this may be an attempt on the part of adherents of these religions to illustrate that their religions are "better" than "other religions" or "no religion." While we believe that easier access to Jewish and Christian samples is a likelier explanation of this trend, it is clear that this poses an issue for construct validity: not all religions express religiosity in the same ways, e.g. devout Hindus or Buddhists may never attend religious services (Ecklund and Park 2007). Until comparable research can illustrate a connection between high levels of devotion among both mainstream and minority religions, any suggested benefit of religiosity and/or spirituality for health is limited to the Jewish and Christian faiths and should be characterized as such.

One attempt to deal with the limitation in how "religiosity" is understood is to broaden this idea into the more inclusive term, "spirituality", an equally vague construct with its own measurement difficulties (Hill et al. 2000; Hill and Pargament 2003). For instance, many R/S assessments treat religiosity and spirituality as separate and independent constructs while most people regard these terms as interdependent and overlapping (see Zinnbauer et al. 1997). Because personal definitions of spirituality vary so widely among investigators and potential participants, it is difficult to determine what, if anything, it means to be highly spiritual, as opposed to highly religious. Measures of spirituality (or spiritual well-being) are also often heavily contaminated with questions assessing positive character traits or mental health, i.e. by defining it as: "indicators of traditional religiousness or a search for the sacred, but also "*positive psychological states: purpose and meaning in life, connectedness with others (quality of social support), peacefulness, harmony, and well-being*" [emphasis added] (Koenig 2008, p. 350). This definition comes very close to *begging the question* (*Circulus in Probando*) by defining spirituality as well-being and then correlating it with well-being. While it is easy to agree that "connectedness with others", "peacefulness", and "harmony" are indicative of well-being, there is no particular reason to regard them as exclusively *spiritual.* Therefore, the associations between spirituality and health found in many published studies within the field may not be very meaningful because spirituality is not always defined as something separate from well-being; the two are not discrete domains (Koenig 2008; Persaud 2007).

### *Sampling Difficulties*

Another reported weakness of the R/S-related literature discussed by critics (e.g., Sloan and Bagiella 2002) concerns the issue of sampling. For convenience purposes, studies using R/S often rely on volunteer sampling. Depending on the recruitment avenues pursued by investigators, volunteer samples may not necessarily reflect the general population. For instance, researchers soliciting participants among church groups may attract people who are more religiously committed and may over-report (or under-report) the strength of any positive findings. In addition, Sloan and Bagiella (2002) cite many examples where flaws in research design resulted in non-equivalent participant matching or unequal treatment procedures. In one published study reporting the effects of transcendental meditation (TM) on blood lipid levels (Wenneberg et al. 1997), treatment and control samples were not equivalent, samples were small, and there was considerable participant dropout.

*Analytical Issues*

Much of the research investigating religiosity and well-being is correlational, and appears to treat correlation as causation, a logical error that is avoided in rigorous research (Asher 1983; Christenfeld et al. 2004). However, many published studies continue to posit that the relationship between R/S and well-being is linear, unidirectional and predictive, without considering alternative interpretations—i.e., that greater physical and psychosocial well-being promotes greater spiritual well-being—or that both may be independently attributable to a third unidentified variable (i.e., the relationship may be spurious). For instance, Sloan (2006) cites such potential confounders as age, race, or general social activities, which may be more salient toward the association than religiosity. Even without adjusting for potential confounders, the actual relationship between religious activity and health is only barely significant statistically—and may be of no practical significance compared to other psychological and behavioral factors (Sloan and Bagiella 2001). It should be noted that the strength of the relationship may also appear weaker than it actually is, due to the error introduced by imprecise measurement of R/S. Still, it has yet to be determined that religious belief contributes to health to a greater extent than, say, creative art (Simonton 2002), or pet ownership (McNicholas et al. 2005). Furthermore, researchers often measure several outcome variables and report the ones that end up being significant without controlling for multiple comparisons, which substantially increases the possibility of finding something significant purely by chance (Mohr 1990; Sloan 2006).

One further limitation of this literature is the tendency to highlight positive aspects of the R/S and health connection but minimize or ignore the negative aspects. Social epidemiological research on R/S and health is funded and justified on the grounds that R/S may promote health. For instance, religion is a potentially valuable coping resource for dealing with illness and death, especially for those living in disadvantaged communities (Nooney and Woodrum 2002). While the extant research does provide some support for this supposition, there is also reason to believe that the evidence for null or detrimental health outcomes associated with greater R/S are sometimes downplayed in favor of highlighting the positives (Sloan 2006). Pargament (2002) notes that certain forms of religious coping can have negative effects on one's health, resulting in substantial increases in distress (see also Bjorck and Thurman 2007). In a recent study, Zuckerman (2008) found that highly religious individuals had the hardest time coping with death in a sample of Danes, a finding reinforced by recent data in the US showing highly religious individuals pursue more aggressive methods to remain alive during the end of their lives (Phelps et al. 2009).

*Lack of Atheist Control Samples*

Another problem that has not received as much attention by critiques of the R/S and health connection is the relative lack of attention devoted to atheists, or affirmatively secular individuals who have a naturalistic worldview (Pasquale 2007). Studies looking at the relationship between R/S and health often rely on self-report measures of religiosity or spirituality that measure the construct of R/S simply as global indices on a range from "low" to "high" religiosity or spirituality. Although there may be some merit to the idea that higher scores on these measures may indicate greater levels of R/S, one cannot by extension infer that low scores on religiosity or spirituality can automatically be reverse-coded to indicate greater secularity (as recently alleged by Hall et al. 2008). In addition,

atheists may reject standard definitions of "spirituality"—especially when the language involves terms such as "sacred" or "divine" (Hill et al. 2000)—but still endorse many of the variables incorporated within the construct, or may conceptualize them in different ways. While it is generally true that atheists tend to be more similar than the religious (i.e., there is greater diversity of religiosity than there is of secularity), almost all such measures are designed to capture how religious someone is, not how secular he or she is. As a result, these measures are unable to reliably distinguish between individuals with affirmatively secular worldviews and those believers whose belief systems are vague, transitory or conflicted. Thus, their reported finding of a "small, robust health liability" associated with secularity seems speculative at best.

Grouping all individuals who have no religious affiliation together into an imprecise catch-all category defined as "religious nones" or "religious independents" (Vernon 1968) invariably results in a population that is theologically, attitudinally, and behaviorally heterogeneous (Hadaway 1989; Hout and Fischer 2002; Keysar et al. 2003; Kosmin and Lachman 1993; Perry et al. 1980; Vernon 1968). This population, which is not further divided to distinguish among types or levels of secularity (Kosmin 2007), is likely to vary from study to study. Without accurately accounting for this heterogeneity, categorizing all the individuals who have no religious affiliation together into a single comparison group is statistically and methodologically problematic; the heterogeneity of the nonreligious make drawing meaningful conclusions about them difficult, and one must therefore be cautious when making inferences based on the data. This is akin to claiming all Protestants are identical, when it is well known that there is a great deal of diversity among Protestants, both in beliefs and other demographic characteristics (Emerson and Hartman 2006; Emerson and Smith 2000). As a result, any research that fails to distinguish among the religious nones is comparing known groups (e.g., Catholics, Episcopalians, Jews) to an unknown and then assuming that there is a meaningful comparison being made.

## Atheists

### Who are the Atheists?

At its most basic level, the word "a-theist" denotes a person who is without a belief in god or gods. It does not necessarily mean someone who believes in the explicit *nonexistence* of god or gods, although some atheists—identified by Smith's (1980) taxonomy as "strong" or "explicit" atheists—may espouse that view. The American Religious Identification Survey (Kosmin and Keysar 2009), a recent, nationally representative telephone survey of more than 50,000 respondents, estimated the number of American adults who are without a belief in god or gods at 2.3% (compared with 31–44% in Britain; see Zuckerman 2006). An additional 10% of the American population are hard ("there is no way to know"; 4.3%) and soft ("I'm not sure"; 5.7%) agnostics. Another 12.1% are deists or hold a New Age pantheistic notion of god (i.e., "There is a higher power but no personal God"). Only 69.5% of Americans believe in a personal God. Importantly, only 21% of those who are atheists by belief self-identify as atheists when asked "What is your religious affiliation, if any?" The balance self-identify as: no religion or none (59%), agnostic 5.7%, or report a religious affiliation (14.3%).

American atheists (by belief) are predominantly male (77%) and young (58.8% are under the age of 49). In part due to their youth, 27% are single and 9.8% have no more than

a high school education. Compared with the general adult population, Atheists are less likely to be African American and more likely to be Asian or Caucasian (non-Hispanic). A majority of atheists identify as political independents and are less likely to identify as Republicans compared to the general population, and are more likely to live in the West and Northeast as opposed to the South. Smaller studies have found parallel demographic patterns (James and Wells 2002; Beit-Hallahmi and Argyle 1997; Hayes 2000; Bainbridge 2005; Jenks 1986). Among a random sample of 1,021 American adult individuals who self-identified as religious nones, those who were atheists (by belief) were better educated, wealthier, more likely to be white, male, and older than other individuals with no religious affiliation (Kosmin and Keysar 2009).

While many Americans continue to see atheists as poorly parented, immoral, unhappy, antisocial hedonists (D'Andrea and Sprenger 2007; Ehrlich and Van Tubergen 1971; Harper 2007; Hood et al. 1996; Jenks 1986), there is limited peer-reviewed research on the psychological characteristics of atheists. In a 1932 survey conducted among 350 members of the American Association for the Advancement of Atheism, Vetter and Green (1932) found that the "most common cause given for anti-religious attitudes were: wide reading of history, science and religion (75 times); disgust with religious hypocrisy (60); influence of particular author or book (55); a byproduct of Socialist materialism (30); effects of college education (25); effects of study of sciences (25)" while other causes such as "illness and death in family, the horrors of war, the futility of prayer, or the evils and unhappiness in the world" were cited less frequently (Vetter and Green 1932, p. 179). A much more recent study of 253 adult individuals who belong to atheist organizations found that they were highly educated, politically liberal, older in age, doubtful of the truth and worth of organized religion (most reported doubting for intellectual as opposed to emotional reasons), dogmatic about their beliefs, not zealous about pushing their worldviews on others, had very little religious upbringing as children, felt more socially stigmatized the more open and active they were about their secularity, and almost all of them qualified as strong/explicit atheists (Hunsberger and Altemeyer 2006).

Additional research has found individuals who self-identify as atheists to be more: independent (Beit-Hallahmi and Argyle 1997), introverted (Bainbridge 2005), lonelier (Lauder et al. 2006), undogmatic and tolerant of ambiguity (Feather 1967), and protected against posttraumatic stress (Ben-Zur 2008). In addition, research has not detected differences between atheists and theists on key personality variables such as: preoccupation with health, neuroticism, number of physical symptoms experienced in the past month (James and Wells 2002), frequency or magnitude of cheating, likelihood of performing an altruistic act (Smith et al. 1975), emotional disturbance (Sharkey and Maloney 1986), depression, self-esteem, dispositional optimism, and social support (Hunsberger et al. 2001). Korean atheist college students were found to have judged hypothetical morally prohibited activities more harshly than American Christians (Rettig and Pasamanick 1959). The Barna Research Group (1999) found that strong/explicit atheists were more likely than other religious groups to have a lower divorce rate (also found by Bainbridge 2005), have a healthy body weight, and feel stressed out. In the few studies which distinguished between types of secular individuals, investigators have found that strong atheists are no more likely to be depressed than strong believers, and are less depressed than weak believers or wavering agnostics (Buggle et al. 2001; Riley et al. 2005; Shaver et al. 1980).

## Methodological Issues in Studying Atheists

To sum up our findings so far, atheists—those who are affirmatively secular—comprise a distinct subcategory within the population of individuals commonly classified as "non-religious" or "non-spiritual". As a consequence, there may be certain distinct considerations uniquely relevant to research involving atheists:

### *De-conversion*

While there is a substantial body of research describing the phenomenon of religious conversion (Halama 2005; Jindra 2008; Paloutzian et al. 1999), the same cannot be said for religious *de-conversion*, defined as the process by which an individual sheds all religious/spiritual belief and embraces a purely secular worldview. This may also be accompanied by a corresponding withdrawal from membership in a church and associated activities, with potential loss of familial or social support structures. If an axiomatic relationship between R/S and well-being is to be established, long-term research tracking the mental and physical health status of individuals who consciously de-convert to secularity, as compared to those who have never held any theistic beliefs, is warranted.

### *Discrimination*

American society, on the whole, is becoming more religiously diverse, leading to increasing tolerance for different religious minorities (Pew Forum on Religion 2008). However, atheists may not yet be beneficiaries of this increasing social acceptance. National surveys indicate that atheists as a minority group are viewed favorably by less than 35% of the survey population (Pew Research Center for the People and the Press 2005; Newport 2006). This figure has been relatively stable over the past 30 years, before which fewer Americans rated atheists favorably. Edgell et al. (2006) found that 48% of Americans would disapprove if their child wanted to marry an atheist, and 40% felt that atheists do not at all agree with their vision of American society. Forty-five percent of Americans surveyed in a poll by Gallup (Jones 2007) said they would be willing to vote for an atheist candidate who was otherwise qualified for the position. In these polls, gays, Muslims, and other historically disliked groups were rated more favorably than atheists. Additional research indicates that these prevalent attitudes may also manifest themselves in discriminatory behavior towards atheists. Currently unpublished research from the ARIS (R. Cragun, B. Kosmin, A. Keysar, and J. Hammer, unpublished manuscript) found that 41% of self-identified atheists reported personally experiencing discrimination in the last 5 years due to their atheism. Specific forms of social discrimination against atheists have been documented inside (Furnham et al. 1998) and outside the laboratory (Associated Press 2007; Dawkins 2007; Downey 2004; Heiner 1992; Koproske 2006; West 2006; Zorn 2008).

It follows that the experience of membership in a marginalized minority group can have physical and psychological effects independent of the actual characteristics of that group itself. Meyer's (2003) model of *minority stress* describes how experiences of stigma, discrimination, and social exclusion can lead to increased stresses and psychological problems (e.g. alcoholism, suicide; House 2001). Particularly relevant might be an analogy with gay, lesbian, bisexual, and transgender individuals' experience of "closeting" as atheists are not readily discernible by their outward appearance (Silverman 2002). This opens up the intriguing possibility that some *extrinsically religious* individuals may in fact

be closet atheists, and might develop into affirmatively secular individuals given more supportive social circumstances.

*Lack of Agreement on Terminology*

Because of the stigma associated with the term "atheist," some affirmatively secular individuals prefer to use other terms (e.g., secular humanist, "bright", freethinker, agnostic). Others may be unaware of or have misunderstandings about terms like "atheist" that accurately describe their present naturalistic worldview. In addition, some affirmatively secular individuals may affiliate with a particular religious tradition out of shared cultural heritage (e.g. secular Jews) rather than personal affinity for the theological tenets of that tradition (Sherkat 2008). Conversely, a Pew survey on American religious behavior (2008) reported that 21% of those who self-identified as atheists proclaimed belief in "god", and 6% believed in "a personal god". While a proportion of those individuals may have personally defined god in purely secular terms (e.g., "god is love"), it is puzzling that the investigators chose to cite this statistic without caveat, given the inherent self-contradiction of that finding. In the ARIS (Kosmin and Keysar 2009), when asked about their religious affiliation, 55.8% of those who self-identified as atheists reported no belief in god, 30% were agnostics, 4.7% were deists; and 9.3% were theists. This suggests that some religious/spiritual individuals may self-identify as atheists but misunderstand what it actually means to be an atheist. This ambiguity is well-acknowledged in the religion and spirituality literature on theists and is a primary impetus for multidimensional measurement of religiosity and spirituality (Hill 2005), but this has yet to be extended to research on atheists. As an example, research on "emotional atheism" has found that some undergraduate students who self-identified as atheists also harbored "anger towards God" (Exline et al. 1999). Whereas it is contradictory to be angry at something that one, at the same time, perceives as not existing, this incongruity may not stop a theological theist from choosing to self-identity as an atheist. To properly compare health outcomes for atheists to religious/spiritual individuals, it is necessary to go beyond single self-identification items (Hill 2005) in order to delineate which individuals are atheists in belief and which are merely self-labeling as atheists.

*Recruitment Issues*

A final difficulty in conducting research among atheists is the relative scarcity of atheists in the American population. In part due to their marginalization, atheists in American society are often isolated and hard to locate, or prefer not to self-disclose their atheism (Hwang 2008). This results in difficulty recruiting well-defined atheist study samples. However, with a growing proportion of the US population willing to self-identify as religious "nones" (Kosmin and Keysar 2009), it is very likely that there will be a corresponding increase among affirmatively secular individuals willing to disclose their atheism. Despite their relative scarcity in the US, theological atheists (as opposed to self-identified atheists) are more numerous than are Mormons or Presbyterians, both of whom are regularly analyzed as independent groups (Heaton et al. 2005). Additionally, the Internet as a safe and anonymous access point to information about and interaction with atheists, combined with the growing public awareness of atheism being raised by outspoken writers such as Richard Dawkins and Christopher Hitchens, may help increase the number of American individuals willing to identify as atheists.

## Implications and Future Directions

Despite the numerous studies reporting positive associations between religiosity/spirituality and various indicators of physical and psychological well-being, much of that research contains conceptual and methodological limitations. The lack of attention devoted to atheists in much of the literature is one major shortcoming not often discussed (Miller and Kelley 2005). While findings with those who score low on measures of religiosity/spirituality and who fall into the "religious nones" category shed some light on the R/S and health connection, the lack of research on the *affirmatively secular* represents an important conceptual omission. In light of this shortcoming, Sloan (2006) cautions against over-reliance on claims that religious devotion is associated with better health to support empirically and ethically questionable interventions.

Based on these findings to date, we offer up a number of intriguing directions for future investigation which may be of interest to scholars in the R/S-health field:

### Reconceptualizing What it Means to be "Spiritual"

The word "spiritual" is disdained by many atheists because of its roots in the word "spirit", as in "having to do with immaterial substances or causes" (Flynn 2009). Nevertheless, many elements of "spirituality"—particularly those dealing with human connections or highly emotional experiences—are equally important to affirmatively *nonspiritual* individuals. This confusion in terms can lead to misunderstandings by others, who may wrongly assume that nonspiritual individuals reject *any* activity that could in any way be interpreted as "spiritual", even those having to do with basic human contact, including "…having a quiet conversation with a patient, holding a patient's hand, evaluating a patient or family member's emotional state, even giving a comforting alcohol rub" (Flynn 2009, p. 15). Therefore, we can strive to avoid over-inclusive definitions of "spirituality," especially when infused into assessments administered to atheist participants or decisions by practitioners regarding providing care.

### Greater Recognition of Atheists as a Separate and Unique Class of Individuals

Investigators have only just begun conceptualizing atheists as a distinct sociopolitical minority, on their own terms. This is likely in part a consequence of the increasing proportion of individuals in US society identifying as "nonreligious". This presents many opportunities for innovative research involving atheists as a distinct subgroup (as opposed to simply the "nonreligious"), not only in relation to theistic believers, but also regarding variations within the affirmatively secular population. In order to properly account for these within-group variations, it is necessary to develop a standardized taxonomy of secularity that appropriately differentiates among various levels and types of secularity, as well as validated assessment measures of secularity that do not simply assume secularity based on low indicators of religiousness or spirituality.

### Constructing an Overall Model of Secular Identity Development

There is presently very limited information regarding what it means to be affirmatively secular in a (largely) religious American society. In order to do so, we need to gain a more complete understanding of how individuals develop an affirmatively secular worldview,

without making speculative inferences based on limited understanding. In order to do so, we can strive to maintain awareness of potential biases and assumptions regarding secularity, such as assuming a *direct and causal association* between secularity and health deficits based on correlational findings, or automatically interpreting an individual's atheism as an indication of anger, rebellion or spiritual conflict rather than its own stable and cohesive worldview. Another related area meriting further investigation deals with the potential effects of experiences within the atheist's social environment, including possible physiological and psychosocial impacts associated with prejudice and stigma. Practitioners treating atheistic clients may need to be especially sensitive to patient confidentiality, as closeted secular individuals may have concerns about being "outed" to family, friends, or the public.

## Acknowledging the Positive

Much of the published research supporting associations between R/S and health to date has implied a corresponding health detriment to secularity (or at best, the absence of such a detriment). Much less is known about the potential adaptive qualities of an affirmatively secular worldview. Therefore, we encourage further investigation of the medical and psychosocial assets of *affirmatively secular* individuals (as opposed to the "nonreligious"). Particularly relevant are studies identifying the *strengths and benefits* associated with an explicitly secular world view, especially the ways in which a secular world view can *enhance* a person's overall health and quality of life.

## Ongoing and Future Research

At present we are working to develop a psychometrically sound measure that assesses secularity in the behavioral, affective, and cognitive sense. In order to accurately target explicit atheists—rather than self-identified religious "nones" whose beliefs are vague, transitory, or conflicted—we expect participants to select the degree to which they endorse *specific statements related to their positions* on such matters as the "soul", or impersonal energy that permeates all things, and ultimate or intrinsic purpose in life, as well as any belief in telepathy, ESP, or other paranormal phenomena. This will differentiate those atheists who just refrain from believing in the traditional gods from those who are secular across the board. This approach also manages to capture individuals who may endorse similar positions but for reasons of their own do not explicitly identify with the label "atheist".

We are also working to develop a model of existential well-being that does not include a priori assumptions of the existence of a Higher Power, a "Sacred" realm, or any other construct that transcends the material world. The new model will also not assume that everyone believes that there is an *intrinsic* purpose and meaning in life. Many secularists do feel a sense of meaning and purpose that is actively created within oneself rather than divinely granted, or—if they do reject the idea of "meaning" altogether—it is because they have freely chosen to embrace absurdity. These projects, however, are still in the early stages, and so to report any inferences based on data collected thus far would be premature.

Finally, we want to address why R/S and health research should include atheist control samples explicitly. The population of individuals self-identifying as "nonreligious" is growing faster than any other religious demographic (Kosmin and Keysar 2009) and now totals more than 15% of the US population, which is a larger segment of the population than every other group except Catholics and Baptists. In addition, the racial, educational

and socioeconomic differences between religious and nonreligious subpopulations are shrinking, suggesting that as the nonreligious grow increasingly in number the more they will begin to resemble the general population. If there is something about the lack of R/S is indeed detrimental to health (as has been suggested) and the trend in the US is away from R/S, this portends worse health for an increasingly large segment of the US population. That should be of concern to anyone interested in public health in the US. Thus, whether or not the affirmatively secular have worse health in light of their increasing percentage in the population warrants further investigation.

## Conclusion

As numerous published surveys indicate, Americans are becoming less religious. Our research indicates a need to move beyond outdated pathological stereotypes of atheists as psychologically maladjusted or existentially bereft. The shifting population trends in our society indicate that such investigation is timely. As such, our aim is not to invalidate the existing canon of R/S-related research but to complement it by extending the findings of the current body of R/S into the domain of the affirmatively secular. It is only through further research that we can gain a greater understanding of what it means to be secular—and by extension, what it means to be spiritual.

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