

“Religious and Spiritual Beliefs and Practices among American Indian, Black, Hispanic/Latina, South Asian, and White Women in the U.S.”

Blake Victor Kent^{1,2,3} James C. Davidson^{2,3,4} Ying Zhang^{2,5} Kenneth I. Pargament^{2,6} Tyler J. VanderWeele^{2,7,8} Harold Koenig^{2,9} Lynn G. Underwood^{2,10} Neal Krause^{2,11} Alka M. Kanaya^{2,12} Shelley S. Tworoger^{2,7,13} Anna B. Schachter^{2,3} Shelley Cole^{2,14} Marcia O’Leary^{2,15} Yvette Cozier^{2,16} Martha Daviglius^{2,17} Aida L. Giachello^{2,18} Tracy Zacher² Julie R. Palmer¹⁶ Alexandra E. Shields^{2,3}

¹Westmont College, Department of Sociology, Santa Barbara, CA

²National Consortium on Psychosocial Stress, Spirituality, and Health, Boston, MA

³Harvard Medical School/Massachusetts General Hospital Center on Genomics, Vulnerable Populations, and Health Disparities, Boston, MA

⁴California State University – Northridge, Department of Sociology, Northridge, CA

⁵Brigham and Women’s Hospital, Boston, MA

⁶Bowling Green State University, Department of Psychology, Bowling Green, OH

⁷Harvard School of Public Health, Department of Epidemiology, Boston, MA

⁸Harvard School of Public Health, Department of Biostatistics, Boston, MA

⁹Duke University Medical Center, Durham, NC

¹⁰Case Western Reserve University Inamori International Center for Ethics and Excellence, Cleveland, OH

¹¹University of Michigan School of Public Health, Ann Arbor, MI

¹²University of California, San Francisco School of Medicine, San Francisco, CA

¹³Moffitt Cancer Center Department of Cancer Epidemiology, Tampa, FL

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¹⁴Texas Biomedical Research Institute, San Antonio, TX

¹⁵Missouri Breaks Industries Research, Inc., Eagle Butte, SD

¹⁶Boston University School of Public Health, Slone Epidemiology Center, Boston, MA

¹⁷University of Illinois at Chicago College of Medicine, Chicago, IL

¹⁸Northwestern University Feinberg School of Medicine, Department of Preventive Medicine, Chicago, IL

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Correspondence should be sent to Blake Victor Kent, 955 La Paz Road, Santa Barbara, CA 805-565-6783 bkent@westmont.edu.

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ABSTRACT

Social scientists have increasingly recognized the lack of diversity in survey research on American religion, resulting in a dearth of data on religion and spirituality (R/S) in understudied racial and ethnic groups. At the same time, epidemiological studies have increasingly diversified their racial and ethnic representation, but have collected few R/S measures to date. With a particular focus on American Indian and South Asian women (in addition to Blacks, Hispanic/Latinas, and white women), this study introduces a new effort among religion and epidemiology researchers, the Study on Stress, Spirituality, and Health (SSSH). This multi-cohort study provides some of the first estimates of R/S beliefs and practices among American Indians and U.S. South Asians, and offers new insight into salient beliefs and practices of diverse racial/ethnic and religious communities.

Keywords: Religion; Spirituality; Study on Stress, Spirituality, and Health; Mediators of Atherosclerosis among South Asians Living in America, Black Women's Health Study, Strong Heart Study, Nurse's Health Study II, Hispanic Community Health Study/Study of Latinos

INTRODUCTION

In an important work, Bender et al. (2012) convincingly argued for the need to “de-center” the social scientific study of religion by increasing research on understudied religious and racial/ethnic groups. Smilde and May (2015) later revealed that from 1971-2010 Christianity, particularly white Protestantism, dominated sociological publications on religion. While Blacks and Hispanics/Latinos do receive attention in some important survey research (e.g., Portrait of American Life Survey, National Survey of Religion and Family Life), other groups, such as American Indians and South Asian Americans, do not fare as well. In many studies of religion these groups are either too small for analysis (e.g., Faith Matters, Baylor Religion Survey) or studies that incorporate Asian Americans do not include many South Asians (e.g. Pew’s Asian-American and Religious Landscape Surveys) (Park and Davidson Forthcoming). Some surveys have made an effort to over-sample minority participants and incorporate multiple translations to increase representation (e.g., the National Asian American Survey), but in cases like this only a handful of religion questions are typically involved. Neglecting minority populations and religions in this way risks misunderstanding the boundaries and elasticity of R/S constructs, especially as they are shaped by historical and cultural contingencies that differ from the white Protestant population, and their potential impact on health and coping with life stressor events.

At the same time, epidemiologists have begun to conceptualize R/S as an important domain for public health research and more recently, as a social determinant of health and health disparities. While many projects examine a variety of associations between religion

and health (e.g., Koenig, King, and Carson 2012; Taylor, Chatters, and Abelson 2012; VanderWeele 2017), R/S is conspicuously absent from most of the nation's large, established prospective cohort studies (Levin 2018; Schnall et al. 2010). To remedy this, the National Consortium on Psychosocial Stress, Spirituality, and Health was formed in 2015 to initiate R/S research within multiple ongoing U.S. cohort studies representing diverse racial/ethnic communities and spiritual traditions in order to advance understanding of the ways R/S influence human health. The push for greater inclusion of understudied populations in research has the potential to greatly expand research on R/S and health (e.g., Kanaya et al. 2013).

The purpose of the present research note is to offer an initial snapshot of R/S data from the Consortium's baseline Spirituality Survey (SS-1). We report comparative R/S frequencies among women drawn from the five original cohorts participating in the SSSH: Strong Heart Study (SHS, American Indians), Mediators of Atherosclerosis in South Asians Living in America (MASALA), Black Women's Health Study (BWHS), Hispanic Community Health Study/Study of Latinos (HCHS/SOL), and Nurses' Health Study II (NHSII, white women). While SSSH data on Black, Hispanic/Latino, and white participants bolster existing resources, one of the more significant contributions of the SSSH is documentation of R/S beliefs, behaviors, and belonging among South Asian (SA) and American Indian (AI) respondents, for which there is an extreme dearth of information. That will be the focus of this study.

AMERICAN INDIAN AND SOUTH ASIAN RELIGION AND SPIRITUALITY

While scholars are generally familiar with the Judeo-Christian beliefs and practices predominant in Black, Hispanic/Latino, and white communities, less is understood about cultures, histories, and spiritual beliefs of the American Indian and South Asian communities. Several framing comments on these groups follow.

A group of Northern Plains Tribal Nations form the SSSH American Indian sample. These communities cannot be considered representative of all AIs, but scholars note that traditional spirituality among these peoples serves as a touchpoint for American Indian spirituality, particularly when addressing broad and inclusive themes (Deloria 2003). Works such as *Black Elk Speaks* (Black Elk and Neihardt 2008), written by the Oglala Lakota holy man Black Elk, have been hailed by many AIs as representative of authentic spirituality. A central feature of this spirituality is interdependence between humans and the natural world - nature is sacred and central to the spiritual life.

This view was (and is) at odds with the latent Gnosticism pervading much of Western Christianity. But despite several centuries of proselytization (Black Elk himself became Catholic), various expressions of AI Christianity today often reflect amalgamations of Christian teaching and native spiritual practice (Hemeyer 2016). Despite state oppression and domination (often in cooperation with missionary activity) rituals that had gone into decline—such as the Sun Dance—were reinvigorated in the 1970s by national Native American identity movements (DeMallie and Parks 1989).

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Many AIs today remain purely committed to traditional practices, but converts to Christianity often incorporate them into church life (Deloria 2003). Among AI participants in the SSSH, traditional native practices include, among others, the sweat lodge, smudge (burning of dried herbs as a purification rite), and the tobacco offering (honoring plants and animals taken from the earth). Some AI Christians—who often worship in liturgically oriented churches such as the Episcopal Church—also participate in these rites. Indeed, scholars have noted that ownership of both native practices and the Christian tradition has increased, and recent years have seen a narrative shift “away from missionaries and their intentions to what native peoples *made* of the Christian tradition” (McNally 2000:835).

Still, some AIs harbor suspicion and anger toward Christian institutions for their complicity in the destruction of native life, including through government-sponsored boarding schools staffed by Christian missionaries (Stout 2012). Feelings of oppression and domination are still real, and some view Christianity and native practice as two opposing systems. However, for others, “sweat lodges and stained glass aren’t so far apart” (Tundel 2013:1).

U.S. South Asians, defined as those with ancestry in India, Nepal, Pakistan, Bangladesh, and Sri Lanka, face a similar dearth of quantitative religious data. Some information on religion among Indian Hindus are available (Pew Forum on Religion and Public Life 2014), but little else beyond that has been recorded. What should be made clear is that this population is religiously diverse. While Hinduism predominates in India and Nepal, Islam is widely practiced in Pakistan and Bangladesh, and Buddhism is prevalent in Sri

Lanka. Even within specific umbrella identities there are different branches and schools of thought such as Sunni, Shiite, Theravada, and Shaiva. Just as branches of Christianity hold differing viewpoints, these religions evince significant variation.

South Asians are relative newcomers to the United States, and the immigrant experience has required religious groups to navigate their religio-ethnic identity in particular ways. Hinduism, for example, is not congregationally centered in India and is typically transmitted through cultural customs and practices, but as Hindus immigrated to the U.S. they could no longer rely on these cultural mechanisms. Efforts were made to standardize and simplify the religion for younger generations, with leaders entrepreneurially borrowing from Western institutions to create Hindu congregational forms of practice, from *satsangs* (worship groups) to weekend *puja* (ritual worship) to *bhajan* (devotional song) services (Kurien 2014). Similar strategies were employed by Sikhs and Jains (Long 2009; Mann 2000). An important distinguishing feature of SA Buddhism is that it has been more accepted by American converts than other Dharmic faiths (Gregory 2001) – nearly half of Buddhists in the U.S. identify as white.

DATA

Data represent initial results of the baseline Spirituality Survey (SS-1) of the SSSH addressing differences in R/S practices, beliefs, and experiences among American Indian, South Asian, Black, Hispanic/Latino, and white women. The SS-1 was fielded in five U.S.-based NIH-funded cohort studies, with a total N of 3,602 for women across cohorts

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(SHS=404, MASALA=449, BWHS=1005, HCHS/SOL=635, NHSII=1109). Notably, due to the gendered nature of religious practice (Avishai, Jafar, and Rinaldo 2015; Kent and Pieper 2019; Schnabel 2015; Sullins 2006) and the fact that NHS2 and BWHS are comprised only of women, the present study focuses on the R/S of women only. Supplemental Table 1 provides descriptive data for men in MASALA, SHS, and HCHS/SOL and we encourage interested readers to examine it. Brief cohort descriptions and sampling information follow; the listed web sites may be accessed for further details.

SHS is one of the largest prospective cohort studies of American Indians, and is focused on cardiovascular disease. In 2017-18 participants for the SS-1 were drawn from the Dakotas region and had to be part of phase IV or V and must have completed the previous two rounds of data collection. Community workers held community events and reached out to SHS participants, most often conducting home visits to assist with completion of the SS-1. Religious comparison measures were not available for the larger cohort (strongheartstudy.org).

MASALA examines risk factors for atherosclerosis among South Asians, with participants drawn from the Chicago and the San Francisco Bay areas. To be eligible for MASALA, respondents must have had at least 3 grandparents born in India, Pakistan, Bangladesh, Nepal, or Sri Lanka. All participants (total cohort N=990) were invited to complete the SS-1 in 2016-18, and only one declined (masalastudy.org).

BWHS began in 1995 to investigate breast cancer and other diseases that disproportionately affect Black women. In 2015, approximately 4,000 participants who had

completed the most recent wave of data collection were invited to complete the SS-1; more than 2,400 women responded within the first two weeks of recruitment and enrollment was stopped. A random sample of 1,000 of these participants was included in SSSH. Comparisons to the full BWHS cohort indicate a high degree of comparability on available religious measures (e.g., religious attendance, degree of religious/spiritual person - see Cozier et al. 2018). The sample represents a full range of socioeconomic levels and all geographic regions of the U.S. (bu.edu/bwhs).

HCHS/SOL targets both immigrant and U.S.-born Hispanic/Latinos in four U.S. cities (total cohort N=16,415), with the aim of assessing the role of acculturation in cardiovascular and related conditions disease etiology. To be eligible for the SS-1 at the time of collection in 2018-19, participants had to be from the Chicago site, have completed the most recent round of data collection, and participated in HCHS/SOL's Sociocultural Ancillary Study (N=900, response rate $754/900=83.8\%$). An additional 244 participants were recruited through letters sent to the broader sample of Chicago site participants (sites.csc.unc.edu/hchs) to reach the desired study population of 1,000. The SSSH sample is generally comparable to the full HCHS/SOL cohort, though variations occur on the handful of comparison items available (i.e., the SSSH sample has a slightly higher proportion of religious affiliates, but attends religious services slightly less - see Lerman et al. 2018).

NHSII was established in 1989 among 116,429 women who responded to the baseline and subsequent biennial follow-up questionnaires to investigate risk factors for major chronic diseases in women, and is comprised of nurses from 14 states who are predominantly white.

R/S data collection occurred from 2015-16, and eligibility included provision of at least two blood samples, being age 45-75 at the time of the most recent blood draw (2010-13), completion of four questionnaires (2001 violence, 2008 trauma, and 2013 and 2015 main questionnaires), and no active participation in an ongoing ancillary study. Approximately the first 1,100 women who completed the survey were enrolled. Comparisons to the larger cohort indicate almost identical levels of religious service attendance (see Spence et al. Forthcoming) (nurseshealthstudy.org).

Selected demographic characteristics of SSSH participants included in this analysis are presented by racial/ethnic group in Table 1.

[Table 1]

SSSH Spirituality Survey (SS-1)

The SS-1 includes both established and *de novo* measures developed with input from SSSH investigators, focus groups (drawn from Black, Hispanic/Latino, and American Indian participants), cohort PIs, and national R/S experts. The questionnaire was field-tested in each cohort, iteratively modifying language to address cultural expectations while maintaining item validity across cohorts. All survey items were prefaced with the following statement: “These questions are being asked of people from different religious backgrounds, and although we use the term ‘God’ in some of the questions below, please substitute your own

word for ‘God’ (e.g., Bhagwan, Allah, The Divine, etc.).” A subset of R/S items across conceptual themes were selected for this analysis.

Religious and/or Spiritual Identity (2 items). One item asked whether respondents identified themselves as: religious and spiritual, spiritual but not religious, religious but not spiritual, or neither spiritual nor religious. Another assessed the degree to which they considered themselves a religious or spiritual person.¹

Beliefs (3 items). Belief items assessed participants’ level of agreement with several statements: “I believe in life after death,” “I believe that God exists,” (both *de novo*) and “God’s spirit dwells in my body” (Mahoney et al. 2005).

Religious and spiritual practices (8 items). Seven items asked about frequency of participation in religious activities: service attendance, group prayer outside of service attendance, praying alone, etc. An additional item asked whether the respondent was “a regular participant in a temple, mosque, gurudwara, church, or community dedicated to a specific spiritual leader.”

Congregational Support (4 items). Two items assessed congregational interactions, asking how often love and care was given to and received from members of the congregation (Krause 2002). One item asked how often people were criticized in their congregation (Sternthal et al. 2010). Two items evaluated social services offered by the congregation.

¹ Response categories for all items are summarized in the notes to Tables 2 and 3.

Relationship with God (4 items). Among those who indicated belief in God, four items assessed perception of participants' relationship with God: "God gives me the strength to do things I otherwise could not do myself," "God loves or cares for me unconditionally, in a way I could never earn," "Throughout my life, God has come through for me" (all *de novo*), and "My relationship with God is what lies behind my approach to life" (Koenig and Büssing 2010).

Virtues (4 items, 1 scale). Four items asked for level of agreement with varying aspects of forgiveness (Krause 2004). A fifth measure scaled two questions on feelings of gratitude ($\alpha=.80$) from the Gratitude Questionnaire-6 (McCullough, Emmons, and Tsang 2002).

Religious coping (1 item, 2 subscales, 2 scales). A single item asked: "To what extent is your religion or spirituality involved in understanding or dealing with stressful situations?" (Fetzer Institute 1999). Two subscales included eight positive coping items ($\alpha=.93$) and six negative coping items ($\alpha=.77$) from the Religious Coping Scale (Pargament, Koenig, and Perez 2000). Two items from the Religious and Spiritual Struggles Scale were assessed ($\alpha=.84$) (Exline et al. 2014), as were two items from the Religious and Spiritual Hope Scale ($\alpha=.93$, *de novo*): "In facing recent stressful events, 'I felt hopeful God would help me get through one day at a time' and 'I looked to my faith in God for hope about the future.'"

Daily Spiritual Experiences (2 subscales). Theistic and non-theistic subscales of the Daily Spiritual Experiences Scale (DSES) (Underwood and Teresi 2002) were used. Two items formed the theistic subscale (e.g., "I desire to be closer to God," $\alpha=.83$) while four

items formed the non-theistic subscale (e.g., “I am touched by the beauty of creation,” $\alpha=.75$).

Religious tradition. Items queried participants’ religious tradition (including unaffiliated, agnostic, and atheist), with the option of selecting multiple traditions or writing in a tradition not represented. Categorization from first order traditions was refined based on optional denominational write-ins. We began with the Steensland et al. (2000) RELTRAD scheme, then branched out to additional religions (i.e., Hinduism, Traditional Native American Practice, etc.). Selecting multiple religious traditions was common in two cases. First, a number of SA respondents selected a combination of Hindu, Jain, Sikh, and Buddhist. These were categorized as “other.” Second, many AIs identified with both Christianity and Traditional Native American Practice. These were categorized independently. In all, 16 religious affiliations are reported.

ANALYTIC STRATEGY

Results were stratified according to race/ethnicity and religious tradition. Frequency distributions for selected items in the SSSH were examined, with one (or two) conceptually meaningful categories reported (e.g., “once a week,” “strongly agree,” etc. - see Supplemental Tables 2 and 3 for additional categories at the opposite end of the distribution, e.g., “never,” “strongly disagree”). Means were calculated for scales. Chi-square and ANCOVA tests were conducted, controlling for respondent age. Weights were provided by HCHS/SOL adjusting for non-response; respondent weights for other cohorts were set to 1.

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The space limitations of a research note prevent a thorough accounting of the many data points presented here and in the supplement, so readers are encouraged to examine these closely. A brief description of selected results and subsequent discussion follow. Results for the South Asian and American Indian women are highlighted.

[Table 2]

RESULTS

South Asian women broadly reported R/S levels on par with, or below, other groups. These included generally lower levels of belief in God and life after death, spiritual community membership, relationship with God, gratitude, positive religious coping, spiritual hope, and theistic daily spiritual experiences. Moderate levels of scripture reading, meditation, negative religious coping, spiritual struggles, and non-theistic spiritual experiences were reported. SA women required promise of change to forgive and had a harder time forgiving themselves compared to Blacks and whites. More than 20% practiced yoga daily or more and 25% self-identified as “religious but not spiritual.”

American Indian women varied across R/S measures. In several cases, AI women reported levels hovering between SAs, Blacks, and whites, such as on belief in life after death, religious/spiritual self-identity, congregational social support, belief in God’s love and support, and theistic daily spiritual experiences. AI women reported high levels of personal prayer, praying for others, congregational criticism, negative coping, and theistic daily

spiritual experiences, and lower levels of gratitude and non-theistic daily spiritual experiences.

Religious tradition. South Asian women largely identified as Hindu, with some also reporting Jainism, Sikhism, Buddhism, Hinduism, or a combination of these. A small number identified as Catholic, Mainline Protestant, none, agnostic, or atheist. Very few American Indian women identified as unaffiliated, agnostic, or atheist. Rather, significant minorities identified as Mainline Protestant, Catholic, Traditional Native Practice, or a combination of Traditional Native Practice and a Christian tradition. AIs identifying with Traditional Native American Practice (TNAP) contrasted in several noteworthy ways to those reporting both TNAP and Christian affiliations. For example, they reported lower levels of belief in God but higher confidence that God's spirit dwells in their body, and religious service attendance was lower, but participation in group prayer outside services was higher. Regarding three variables specific to the SHS population (not reported in tables), TNAPs and TNAP/Christians attended Ceremony at the same frequency (28% weekly or more), but weekly attendance at the sweat lodge and performance of tobacco offerings and smudge/purification was more common for TNAPs than TNAP/Christians (16% vs. 8%, 30% vs. 22%, and 75% vs 58%, respectively).

Across all religious traditions (regardless of race/ethnicity), Evangelicals and Black Protestants reported higher levels of belief and practice relative to Mainline Protestants and Catholics. Hindus, Jains, and Sikhs were comparable on many measures, though Hindus reported lower levels of congregation membership. Muslims reported higher levels of R/S

than Dharmic religions, but were generally comparable to Evangelicals and Black Protestants. They also reported among the highest levels of hope and daily spiritual experiences, and the lowest levels of R/S struggles. Buddhists reported high levels of spiritual salience—along with practices like meditation and yoga—but lower levels of belief in God, personal connection to God, positive religious coping, and theistic spiritual experiences.

DISCUSSION

The SSSH, a multi-ethnic study of psychosocial stress, chronic disease, and religion and spirituality (R/S), provides what are some of the first estimates of many R/S practices, beliefs, and experiences among American Indian and South Asian women in the U.S. At the same time, the SSSH bolsters existing R/S research on Black, Hispanic/Latino, and white women. Here we focus on the two least studied groups, American Indian and South Asian women.

American Indian women reported moderate levels of participation and belief on many of the R/S variables, but relatively elevated levels on variables that could be indicative of the “darker side of religion” (Ellison and Lee 2010): congregational criticism, negative religious coping, and R/S struggles. One explanation for elevated levels of these variables might be provided by the social and economic circumstances affecting American Indians as previously highlighted. That is, tensions between Christian missionary activity and native practices, along with oppression and marginalization by the U.S. government, have resulted in widespread group and individual-level trauma and poverty in tribal communities (Bohn 2003;

Gitter and Reagan 2002). Such oppression, along with economic disadvantage, might very well hold implications for religious communities and individuals as they seek to understand their circumstances in light of religious beliefs and commitments. For example, people commonly look to God in order to explain negative life experiences, and the attendant religious struggles can be accompanied by negative self-appraisal and a punishing/judgmental view of God, both of which are associated with increased risk of deleterious outcomes (Bradshaw and Ellison 2010; Bradshaw and Kent 2018; Ellison and Lee 2010).

Notably, R/S struggles and negative coping were not statistically different among TNAPs and TNAP/Christians, but TNAP/Christians reported higher levels of hope in God as a source of resilience. It is possible this data point simply reflects lower levels of belief in God among TNAPs relative to TNAP/Christians, but the intriguing difference underscores how little we actually know and how much we might possibly learn. Future work in the SSSH will endeavor to elucidate the causes and consequences of these patterns.

Among *South Asian women*, R/S levels were relatively lower than other groups, driven particularly by the larger Hindu population within the sample. This may be attributed to any number of cultural influences, though we suspect the relatively high SES of this population and the norms and obligations of an immigrant religious community may be at the forefront. Nearly all MASALA participants are immigrants, averaging half their lives in the U.S. Thus, they have lived in two very different national religious contexts. The U.S. is recognized for its equally high levels of economic development and religious adherence (Norris and Inglehart 2011), with a religious field characterized by an entrepreneurial and

competitive religious market (Finke and Stark 2005). This typically differs from SA home countries. In much of India, for example, religion is “in the air,” often assumed and passed fluidly from one generation to the next through ubiquitous cultural mechanisms (Williams 1998). Immigrant SA religious leaders have successfully built structures in the U.S. that aid in religious and cultural reproduction (Kurien 2014; Yang and Ebaugh 2001) but it is inevitable that for some individuals, cultural and familial obligations will have a stronger pull than personal piety. Indeed, despite 9% of the sample reporting no religious affiliation and only 37% reporting congregation membership, every respondent reported attending religious services at least occasionally.

Interestingly, more than 25% of SA women reported being “religious but not spiritual,” an unusually large percentage relative to the U.S. general population (4.13%, see McClure 2017). This high proportion may reflect culturally-driven engagement in religious rites and rituals, though it might also reflect basic differences in Eastern and Western conceptions of the term “spiritual.” SA religions involve a number of rites, rituals, and habits that lend themselves to “religious” practice, that is, to forms of participation grounded in institutions and doctrine (Zinnbauer et al. 1997), while many Westerners have embraced “spirituality” as a less dogmatic alternative to organized religion (Ammerman 2013). The term “spiritual” may not be interpreted in the same way among SAs. Evidence from SSSH focus groups suggest that the term “spiritual” in the SA context may be reserved to describe people who are particularly spiritually advanced or holy, while the term among most Americans tends to claim a spirituality that stands in contrast to organized religion.

This highlights the importance of properly contextualizing these findings. SA religions, especially Dharmic religions, are quite different from the varieties of Christianity represented by Blacks, whites, Hispanic/Latinas, and many American Indians. Low levels of theistic belief among Buddhists should not be surprising, for example, given that the Buddha and buddhas are not regarded as gods, but rather as uniquely enlightened “counter-intuitive agents” (Pyysiäinen 2003). Other unmeasured R/S items—such as chanting mantras or worshipping at a home altar—that might also tap consequential elements of Dharmic faiths were not considered here. Yoga, which originates from the Vedas, was practiced at a much higher rate among SAs, and Buddhists reported the highest levels of non-theistic spiritual experiences, which befits a belief system endowing all living things with sacred value (Cooper and James 2017).

[Table 3]

In some cases, similarities were evident across particular religious groups. Interestingly, we found that Evangelicals, Black Protestants, and Muslims tended to report similar levels of belief and practice. Muslims reported high levels of congregational membership and evinced spiritual characteristics consistent with an approach familiar to many conservative Christians, including subjective perceptions of relationship with God (Ghobary Bonab 2013; Miner et al. 2014). Prayer was equally high among these groups and frequency of reading scripture, positive religious coping, and religious and spiritual hope were also comparable. While racial and ethnic differences—not to mention political

tensions—can obfuscate religious similarities across groups, our results highlight the shared practices and beliefs across racial/ethnic communities and religious traditions.

Forgiveness plays a central theological role in Christian traditions, and results indicated significant variation on these measures. Catholics and Evangelicals (compared to Mainline and Black Protestants) were more likely to say others must promise not to repeat a violation before they would be willing to grant forgiveness. However, this was heavily influenced by the Hispanic/Latina population. Absent Hispanic/Latinas, all Christian groups reported low requirements for a change of behavior—except AI Christians. One explanation for these results is that AIs and Hispanic/Latinas may be exposed to high levels of trauma (Bohn 2003; Graham, Lanier, and Johnson-Motoyama 2016) and unconditional forgiveness may be more difficult to grant under these circumstances. Differences could also be related to unidentified religious or cultural factors.

Second—and specific to AIs—it may be possible to interpret this as a function of cultural narrative/memory in which AIs have been repeatedly betrayed by invading powers (Burnette 2015). Needing assurances prior to granting forgiveness could be built into cultural narratives that filter down to the individual level (Krog 2007). The requirement for changed behavior does not emerge among Black women, however, indicating that exposure to continued high levels of trauma may not be the sole explanation for these results. Thus, there is much to learn about how collective experiences of exploitation and suffering may or may not limit one's capacity for forgiveness.

LIMITATIONS AND CONCLUSION

The primary limitation of this study is generalizability. Cohorts from which the SSSH study participants are drawn are community-based studies and thus results cannot reliably be projected to the U.S. population. Similarly, the N for some religious groups is small and data should be interpreted with caution. Still, the cohorts from which SSSH participants were drawn reflect the leading, and in some cases the only, cohorts capturing under-represented minority populations. Second, it is well documented that women and men differ with regard to R/S (Avishai et al. 2015; Schnabel 2015) and we have limited discussion here to women only. Supplemental Table 1 includes available data on SSSH men for comparative purposes, yet future work should more closely examine gender differences in these under-studied groups. Third, because data were collected in each cohort according to the cohort's established data collection procedures, sampling bias may have been introduced. Some cohorts included all their participants (i.e., MASALA), while others drew subsamples using varying methodologies. It is possible in the remaining four cohorts that respondents interested in religion or spirituality were more likely to respond. Additionally, some SS-1 surveys were completed online, some during scheduled clinical visits, and others completed via mail, telephone calls, or in-person visits, depending on cohorts' established collection procedures. This variation may result in certain biases that are difficult to assess. Finally, our religious categorization strategy necessitated that AIs identifying solely as Christian be examined along with the other four racial/ethnic groups. Future analyses should examine differences and commonalities among AI Christians, Traditional Native practitioners, and those

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identifying with both Christianity and Traditional Native Practice. Despite these limitations, this study provides important estimates of many R/S measures across five racial/ethnic groups, and it represents the first comprehensive assessment of R/S practices and beliefs within American Indian and South Asian communities.

Future research by the National Consortium on Psychosocial Stress, Spirituality, and Health and the SSSH will examine the influence of R/S practices and beliefs on disease etiology, focusing in particular on racial/ethnic differences and the stress pathway. Although there is now considerable evidence for such influence (Cozier et al. 2018; Koenig et al. 2012; VanderWeele 2017), much of the high quality, prospective research on R/S and health has been restricted to a small number of variables. The SSSH will dramatically expand opportunities for research investigating the influence of numerous other aspects of religion and spirituality on diverse disease endpoints and biological profiles, including various cancers, heart disease, DNA methylation, telomere attrition, type-2 diabetes, mortality, and others. In the meantime, these current data provide new resources for the social scientific study of religion. We welcome opportunities for transdisciplinary collaboration on research investigating the influence of R/S on important health outcomes across diverse communities, and the potential of leveraging the salience of R/S within minority communities to develop novel interventions aimed at reducing health disparities.

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Table 1. Summary Statistics Religion and Spirituality Questionnaire (BWHS, HCHS/SOL, MASALA, NHSII, SHS Women)

Measures	White	Black	South Asian	Amer Indian	Hispanic/Latina	Total	SD	Range
N	1109	1005	449	404	635	3602		
Age	63.02	57.62	59.85	51.93	48.21	57.64	10.10	26-92
Married	81.41	45.67	85.53	45.29	55.55	63.76	-	-
<u>Income^a</u>								
≤\$15,000	.81	1.43	5.96	40.00	29.18	10.31	-	-
\$15,001-\$30,000	1.21	12.87	7.69	15.38	44.76	13.30	-	-
\$30,001-\$50,000	12.51	19.10	6.95	21.54	13.82	15.10	-	-
\$50,001-\$100,000	47.43	43.92	26.05	23.31	9.20	35.36	-	-
>\$100,000	38.04	22.68	53.53	-	3.04	25.93	-	-
<u>Religious Affiliation</u>								
Evangelical Protestant	21.53	2.69	.00	6.33	26.11	12.08	-	-
Mainline Protestant	27.88	5.38	1.72	18.23	1.52	12.97	-	-
Black Protestant	.00	67.93	.00	.00	.00	19.72	-	-
Catholic	28.97	6.97	1.93	28.10	63.25	23.73	-	-
Jewish	1.63	.60	.00	.00	.03	.70	-	-
Buddhist	1.54	.30	.43	.00	.00	.64	-	-
Hindu	.00	.00	60.30	.00	.00	8.12	-	-
Muslim	.00	.60	8.80	.00	.00	1.36	-	-
Sikh	.00	.00	5.79	.00	.00	.78	-	-
Jain	.00	.00	5.79	.00	.00	.78	-	-
Trad'l Native Practice	.00	.00	.00	16.20	.00	1.85	-	-
Trad'l Native Practice/Christian	.00	.00	.00	23.80	.00	2.72	-	-
Other religion	1.63	4.28	7.73	4.81	2.95	3.77	-	-

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No preference	7.54	9.46	2.15	1.77	5.59	6.43	-	-
Agnostic	5.72	1.10	3.22	.51	.56	2.71	-	-
Atheist	3.54	.70	2.15	.25	.00	1.65	-	-

^aCategorization harmonized across cohorts - slight variations occur. Largest SHS category available is >\$50,000.

Table 2. Measures of Religion and Spirituality Among White, Black, South Asian, American Indian and Hispanic/Latina Women in the SSSH

Measures	White	Black	South Asian	Amer Indian	Hispanic/Latina	χ^2/F	Range
N	1109	1005	449	404	635		
<i>Religious and Spiritual Self-Identification</i>							
Which statement best describes you?							
...spiritual and religious	64.50	63.78	60.90	64.09	58.99	***	-
...spiritual but not religious	28.27	31.14	6.97	20.45	26.32	***	-
...religious but not spiritual	2.08	2.49	25.17	8.79	10.83	***	-
...neither religious nor spiritual	5.15	2.59	6.97	6.73	3.86	***	-
Considers self religious or spiritual, "Very"	41.21	46.07	24.72	34.65	24.72	***	1-4 ^a
<i>Beliefs</i>							
Believe in life after death, "Definitely true"	65.28	62.65	44.27	57.83	63.91	***	1-5 ^b
Believe that God exists, "Definitely true"	73.23	86.34	64.57	76.59	93.00	***	1-5 ^b
God's spirit dwells in my body, "Definitely true" [†]	53.54	71.15	44.76	44.59	76.24	***	1-5 ^b
<i>Religious/Spiritual Activity</i>							
Part of a religious congregation or community	63.33	67.06	37.07	44.69	32.97	***	0-1
Religious attendance, "Once/week or more"	44.50	44.28	27.80	20.13	34.50	***	1-6 ^c
Group prayer outside religious services, "Once/day or more"	6.02	8.07	7.78	9.05	9.44	***	1-7 ^d
Pray alone, "Once/day or more"	58.78	76.89	72.21	78.75	73.33	***	1-7 ^d
Pray for others when praying alone, "Once/day or more"	53.81	65.24	60.23	66.50	69.25	***	1-7 ^d
Read scriptures, "Once/day or more"	20.20	36.56	29.26	13.32	22.91	***	1-7 ^d
Meditate, "Once/day or more"	28.13	41.44	33.56	27.18	38.97	***	1-7 ^d
Practice yoga, "Once/day or more"	3.63	2.69	21.23	1.50	2.96	***	1-7 ^d
<i>Congregational Support[‡]</i>							
Shown love by fellow congregants, "Very often"	41.03	55.34	38.41	42.94	47.87	***	1-4 ^e
Religious community critical of you, "Very often" or "Fairly often"	2.29	4.15	9.82	27.84	17.86	***	1-4 ^e
Religious community offers social services	90.36	87.37	75.18	60.94	80.79	***	0-1
Family has used social service offered by religious community	33.73	46.95	32.17	55.71	54.36	***	0-1
<i>Relationship with God[†]</i>							
God gives me strength to do things I otherwise could not, "Definitely"	58.44	76.52	58.47	57.22	86.00	***	1-5 ^b
God loves me unconditionally, "Definitely"	65.45	79.45	52.62	55.15	83.17	***	1-5 ^b
God has come through for me, "Definitely"	58.56	81.07	55.71	51.55	82.17	***	1-5 ^b
Relationship with God behind whole approach to life, "Definitely"	43.36	60.69	45.71	45.88	75.97	***	1-5 ^b
<i>Virtues</i>							
Before forgiving others, must promise not to repeat, "Strongly agree"	1.65	1.89	7.80	8.86	15.46	***	1-4 ^f
Hard to forgive myself for things I've done wrong, "Strongly agree"	6.64	6.27	10.98	11.87	14.76	***	1-4 ^f
I have forgiven those who have hurt me, "Strongly agree"	20.83	28.36	33.11	25.71	47.53	***	1-4 ^f
Others have not forgiven me for what I have done, "Strongly agree"	2.86	5.19	3.68	10.20	16.25	***	1-4 ^f
Gratitude scale	4.89	4.90	4.75	4.72	4.83	***	1-5 ^g
<i>Religious Coping[†]</i>							

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R or S is involved in dealing with stressful situations, "Very much"	58.49	75.91	48.64	50.13	64.71	***	1-4 ^h
Positive religious coping subscale	2.78	3.14	2.88	3.00	3.59	***	1-4 ⁱ
Negative religious coping subscale	1.22	1.44	1.47	1.76	1.78	***	1-4 ⁱ
Religious and spiritual struggles scale	1.32	1.34	1.33	1.55	1.46	***	1-4 ⁱ
Religious and spiritual hope scale	3.05	3.49	3.01	3.18	3.73	***	1-4 ⁱ
<i>Spiritual Experiences</i>							
Non-theistic daily spiritual experience subscale	3.76	3.84	3.71	3.56	3.58	***	1-5 ^j
Theistic daily spiritual experience subscale [†]	4.17	4.50	4.11	4.23	4.71	***	1-5 ^j

Notes: Individual items reported as percentages; scales reported as means. All significance tests control for age.

‡ Congregational participants only

† Not asked of atheists

^a1=Not at all, 2=Slightly, 3=Moderately, 4=Very

^b1=Definitely not true, 2=Tends not to be true, 3=Unsure, 4=Tends to be true, 5=Definitely true

^c1=Never, 2=Rarely, 3=Once/month, 4=2-3/month, 5=Once/week, 6=Several times/week

^d1=Never, 2=Several times/year, 3=Several times/month, 4=Once/week, 5=More than once/week, 6=Once/day, 7=Several times/day

^e1=Never, 2=Once/while, 3=Fairly often, 4=Very often

^f1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly agree

^g1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

^h1=Not at all, 2=Not very much, 3=Somewhat, 4=Very much

ⁱ1=Not at all, 2=Somewhat, 3=Quite a bit, 4=A great deal

^j1=Never, 2=Once in a while, 3=Some days, 4=Every day, 5=Many times a day

Table 3. Religion and Spirituality Measures by Religious Affiliation among Women in the SSSH

Measures	Eva n	Ma in	Blc k	Cat h	Jew	Bu dd	Hin d	Mu sl	Sik h	Jai n	TN AP	TN AP	Oth	No ne	Ag n	Ath e	χ^2 /F	Ran ge
N	451	451	682	913	25	22	265	45	25	25	64	93	130	225	95	57		
<i>Religious and Spiritual Self-Identification</i>																		
Which statement best describes you?																		
...spiritual and religious	69.	78.	70.	71.	44.	45.	62.	71.	88.	62.	43.	75.	53.	10.	6.5	1.7	**	-
...spiritual but not religious	26.	14.	26.	17.	52.	50.	6.4	17.	4.0	7.4	46.	17.	21.	76.	60.	35.	**	-
...religious but not spiritual	3.5	5.2	2.7	7.9	0.0	0.0	24.	8.8	8.0	22.	4.6	3.2	16.	3.1	8.5	7.0	**	-
...neither religious nor spiritual	1.1	1.6	0.7	2.6	4.0	4.5	6.4	2.2	0.0	7.4	4.6	4.3	8.6	10.	24.	56.	**	-
Considers self religious or spiritual,	54.	41.	48.	30.	28.	50.	24.	26.	24.	29.	50.	36.	43.	23.	3.2	5.2	**	1-4 ^a
<i>Beliefs</i>																		
Believe in life after death, "Definitely	80.	68.	68.	65.	24.	54.	44.	66.	36.	59.	60.	59.	59.	33.	7.4	1.7	**	1-5 ^b
Believe that God exists, "Definitely	93.	84.	93.	87.	46.	50.	66.	97.	64.	62.	67.	78.	76.	47.	2.2	0.0	**	1-5 ^b
God's spirit dwells in my body,	77.	56.	79.	61.	32.	Lo	47.	42.	48.	34.	50.	39.	48.	33.	5.1	.	**	1-5 ^b
<i>Religious/Spiritual Activity</i>																		
Part of a religious congregation or	67.	71.	74.	52.	70.	59.	32.	53.	45.	66.	30.	52.	57.	4.5	9.8	5.2	**	0-1
Religious attendance, "Once/week or	55.	46.	50.	38.	17.	27.	25.	53.	32.	18.	20.	23.	31.	2.1	3.2	3.5	**	1-6 ^c
Group prayer outside relig services,	9.8	7.4	9.4	7.6	0.0	0.0	10.	11.	0.0	7.4	17.	5.4	7.2	0.9	0.0	0.0	**	1-7 ^d
Pray alone, "Once/day or more"	80.	66.	83.	72.	25.	54.	75.	88.	64.	77.	78.	83.	71.	38.	7.1	5.2	**	1-7 ^d
Pray for others when praying alone,	73.	61.	71.	65.	25.	40.	61.	81.	56.	53.	68.	72.	63.	29.	3.9	5.2	**	1-7 ^d
Read scriptures, "Once/day or more"	42.	24.	43.	13.	9.3	13.	29.	50.	29.	34.	9.3	11.	30.	7.3	0.0	0.0	**	1-7 ^d
Meditate, "Once/day or more"	38.	27.	43.	31.	12.	54.	35.	34.	20.	30.	29.	37.	44.	28.	20.	12.	**	1-7 ^d
Practice yoga, "Once/day or more"	2.4	2.6	1.7	2.9	0.0	36.	25.	4.6	12.	25.	4.6	0.0	9.2	6.5	6.4	3.5	**	1-7 ^d
<i>Congregational Support[‡]</i>																		
Shown love by fellow congregants,	56.	46.	56.	29.	Lo	Lo	44.	54.	Lo	Lo	63.	40.	61.	Lo	Lo	Lo	**	1-4 ^e
Rel community critical of you, "Very	5.2	6.4	4.5	8.9	Lo	Lo	8.2	20.	Lo	Lo	31.	20.	9.2	Lo	Lo	Lo	**	1-4 ^e
Religious community offers social	79.	89.	88.	92.	Lo	Lo	72.	77.	Lo	Lo	46.	47.	62.	Lo	Lo	Lo	**	0-1
Family has used social service offered	47.	41.	48.	30.	Lo	Lo	39.	36.	Lo	Lo	66.	64.	33.	Lo	Lo	Lo	**	0-1
<i>Relationship with God[†]</i>																		
God gives strength to do things I could	83.	63.	84.	71.	35.	Lo	57.	81.	56.	61.	55.	51.	63.	30.	2.7	.	**	1-5 ^b
God loves me unconditionally,	86.	72.	88.	72.	23.	Lo	52.	80.	56.	50.	55.	49.	55.	32.	5.3	.	**	1-5 ^b
God has come through for me,	82.	62.	89.	67.	36.	Lo	57.	82.	48.	42.	54.	49.	64.	37.	2.7	.	**	1-5 ^b
Relation with God behind approach to	70.	47.	67.	53.	18.	Lo	44.	68.	40.	53.	47.	47.	61.	25.	0.1	.	**	1-5 ^b
<i>Virtues</i>																		
Before I forgive, must promise not to	3.9	1.5	1.7	9.4	4.3	0.0	6.9	16.	16.	11.	7.8	8.5	4.9	4.0	3.2	3.5	**	1-4 ^f
Hard to forgive self for things done	7.8	8.8	6.0	11.	4.1	4.5	11.	9.3	8.0	7.6	10.	10.	8.4	8.0	2.1	7.0	**	1-4 ^f
I have forgiven those who hurt me,	35.	20.	30.	28.	12.	27.	31.	32.	36.	46.	30.	33.	35.	26.	12.	16.	**	1-4 ^f
Others not forgiven me for what I've	5.3	3.6	6.3	9.0	0.0	13.	3.8	2.2	8.0	0.0	11.	8.6	10.	5.4	2.1	1.7	**	1-4 ^f
Gratitude scale	4.8	4.8	4.9	4.8	4.7	4.8	4.7	4.8	4.7	4.8	4.6	4.7	4.8	4.7	4.7	4.6	**	1-5 ^g
<i>Religious Coping[†]</i>																		
R or S involved in dealing with stress,	74.	60.	81.	61.	37.	Lo	47.	74.	50.	46.	56.	48.	60.	42.	18.	.	**	1-4 ^h
Positive religious coping subscale	3.3	2.9	3.3	3.1	2.1	Lo	2.8	3.4	2.8	2.8	2.9	3.0	2.9	2.2	1.2	.	**	1-4 ⁱ
Negative religious coping subscale	1.5	1.3	1.4	1.5	1.4	Lo	1.4	1.5	1.5	1.4	1.7	1.7	1.4	1.2	1.1	.	**	1-4 ⁱ
Religious and spiritual struggles scale	1.3	1.3	1.3	1.4	1.4	Lo	1.3	1.1	1.3	1.2	1.5	1.5	1.2	1.3	1.5	.	*	1-4 ⁱ
Religious and spiritual hope scale	3.6	3.2	3.6	3.4	2.3	Lo	2.9	3.6	2.9	3.1	2.9	3.2	3.1	2.4	1.3	.	**	1-4 ⁱ
<i>Spiritual Experiences</i>																		
Non-theistic daily spiritual experience	3.7	3.7	3.8	3.6	3.7	4.0	3.6	4.0	3.5	3.6	3.8	3.6	3.7	3.7	3.5	3.5	**	1-5 ^j

Theistic daily spiritual experience	4.6	4.4	4.6	4.5	3.3	Lo	4.1	4.4	4.0	3.6	4.2	4.1	4.2	3.4	1.9	.	**	1-5 ^j
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Notes: Individual items reported as percentages; scales reported as means. All significance tests control for age.

Lo N indicated for cell count < 20

‡ Congregational participants only

† Not asked of atheists

^a1=Not at all, 2=Slightly, 3=Moderately, 4=Very

^b1=Definitely not true, 2=Tends not to be true, 3=Unsure, 4=Tends to be true, 5=Definitely true

^c1=Never, 2=Rarely, 3=Once/month, 4=2-3/month, 5=Once/week, 6=Several times/week

^d1=Never, 2=Several times/year, 3=Several times/month, 4=Once/week, 5=More than once/week, 6=Once/day, 7=Several times/day

^e1=Never, 2=Once/while, 3=Fairly often, 4=Very often

^f1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly agree

^g1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

^h1=Not at all, 2=Not very much, 3=Somewhat, 4=Very much

ⁱ1=Not at all, 2=Somewhat, 3=Quite a bit, 4=A great deal

^j1=Never, 2=Once in a while, 3=Some days, 4=Every day, 5=Many times a day

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