Religious involvement as a social determinant of sleep: an initial review and conceptual model

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ABSTRACT

Although numerous empirical studies show that religious involvement is associated with better health and longer life expectancies, researchers have virtually ignored possible links between religious involvement and sleep. To spark greater attention to this important and understudied area of sleep research, we review previous population-based studies, propose an initial conceptual model of the likely pathways for these associations, and offer several avenues for future research. Our review and critical examination suggest that religious involvement is indeed a social determinant of sleep in the United States. More religious adults in particular tend to exhibit healthier sleep outcomes than their less religious counterparts. This general pattern can be seen across large population-based studies using a narrow range of religion measurements and sleep outcomes. Our conceptual model, grounded in the broader religion and health literature, suggests that religious involvement may be associated with healthier sleep outcomes by limiting mental, chemical, and physiological arousal associated with psychological distress, substance use, stress exposure, and allostatic load. As we move forward, researchers should incorporate (1) more rigorous longitudinal research designs, (2) more sophisticated sleep measurements, (3) more complex conceptual models, (4) more comprehensive measurements of religion and related concepts, and (5) more measures of religious struggles to better assess the “dark side” of religion. Research along these lines would provide a more thorough understanding of the intersection of religious involvement and population sleep.

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Introduction

Is religious involvement a social determinant of sleep? Religious doctrine and popular culture suggest that it is. The Bible tells us that there is no rest for the wicked. Other books describe sleep as “God’s medicine.” Even the Irish rock band U2 suggests that “sleep comes like a drug in God’s country.” Over the past 3 decades, numerous empirical studies have shown that religious involvement—indicated by observable feelings, beliefs, activities, and experiences in relation to the spiritual, divine, or supernatural—is associated with better health and longer life expectancies across a range of outcomes, including health behaviors (eg, drinking, smoking, substance use), mental health (eg, depression, anxiety, and nonspecific psychological distress), biological functioning (eg, blood pressure, overall allostatic load, and cellular aging), physical health (eg, self-rated health, disability, and stroke), and mortality risk (eg, all-cause and from circulatory and respiratory diseases). In contrast to these bodies of work, researchers have virtually ignored possible links between religious involvement and sleep.

This gap in the literature is surprising because religious involvement is consistently associated with several established risk and protective factors for sleep quantity and quality. In this article, we review previous US population-based studies of religious involvement and sleep outcomes, propose an initial conceptual model of the likely pathways for these associations, and offer several avenues for future research. The general aim of this review is to spark greater attention to this important and understudied area of sleep research.

Population-based studies of religious involvement and sleep

Is religious involvement associated with healthier sleep outcomes? In our review of the scientific literature, we could find only 7 population-based studies of religious involvement and sleep. In this section, we explore the key findings of this research.

In 1998, Wallace and Foreman published the first examination of the association between religious involvement and sleep. Their analyses of national cross-sectional data from the Monitoring the Future study (1995-1996) showed that high school seniors who engaged in religious services “about once a week or more” and rated religion as “very important” in their lives were more likely to “get at least 7 hours of sleep” than those who, respectively, “never” attended and rated their religion as “not important.” The authors also found that respondents with “moderate” (eg, Disciples of Christ, Lutheran, and Methodist) and “liberal” (eg, Episcopal, Presbyterian, United Church of Christ, Roman Catholic, and Jewish) religious affiliations were similarly advantaged relative to those with no affiliation. Interestingly, the sleep patterns of young adults with “conservative” religious affiliations (Baptist, Church of Christ, Muslim, and Latter Day Saints) were comparable to those with no affiliation. These patterns held with statistical controls for sex, race, parent’s education, family structure, urbanicity, and region.

In 2006, Hill and colleagues used cross-sectional data from the Survey of Texas Adults (2004), a statewide probability sample of Texans aged 18 and older, to model overall self-rated sleep quality as a function of religious attendance. The results of this study showed that respondents who attended religious services more than once per week were more likely to report “sound sleep quality” (excellent, very good, or good) than respondents who never attended or attended less than once per month. These associations were observed with statistical adjustments for age, sex, race, citizenship, interview language, marital status, number of children, education, employment status, family income, financial strain, and self-rated health.

In 2007, Adam and colleagues published a unique study of time-diary data from the second wave of the Child Development Supplement of the national Panel Survey of Income Dynamics (2002-2003). “Religious activities,” “hours of sleep,” “bedtimes,” and “wake times” were assessed in children and adolescents from time-diary reports on 2 randomly selected days (1 weekday and 1 weekend day). Their analyses showed that more time spent engaging in religious activities was associated with less total sleep time on weekdays and weekends, later bedtimes on weekdays (not weekends), and earlier wake times on weekdays and weekends. These results persisted with statistical adjustments for child demographics (age, sex, and race), family characteristics (family income, parental education, marital status, work hours, number of children), school start/end times, time traveling to school, a range of weekday and weekend activities, family functioning (parental warmth, parental rules, economic strain, parenting stress, psychological distress, and family conflict), and child health (child health and internalizing/externalizing problems).

In 2011, Ellison and colleagues published the first study linking measures of religious involvement (religious attendance, prayer, and secure attachment to God) and religious struggles (religious doubts and anxious attachment to God) with multiple self-reported sleep outcomes (overall sleep quality, restless sleep initiation, and use of sleep medications). Using data collected from a national probability sample of active elders and other active members of the Presbyterian Church (USA) (2005-2007), these researchers showed that religious attendance and frequency of prayer were positively associated with overall sleep quality and unrelated to restless sleep initiation and the use of sleep medications. God attachment styles (secure and anxious) were consistently unrelated to all 3 sleep outcomes. Religious doubts were inversely associated with sleep quality and positively associated with restless sleep initiation and the use of sleep medications. These patterns held with statistical controls for age, sex, race, education, marital status, income, elder status, stressful life events, exercise habits, alcohol consumption, psychological distress, and self-rated physical health.

In 2017, Krause and colleagues published 2 studies using national data from the Landmark Spirituality and Health Survey (2014). These studies used multiple measures of religious involvement and a global measure of sleep quality. The first study showed that a “sacred body view” (eg, “My body is a sacred gift from God.”) and “God-mediated control” beliefs (eg, “All things are possible when I work together with God.”) were positively associated with sleep quality. Moderation analyses showed that the association between sacred body view and sleep quality was limited to respondents with strong God-mediated control beliefs (ie, “a strong religiously oriented sense of control”). These results were observed with statistical adjustments for age, sex, education, marital status, religious attendance, frequency of prayer, and religious affiliation. The second study tested an elaborate mediation model to explain the association between religious attendance and overall sleep quality. After statistically controlling for age, sex, education, marital status, and hope (a mediator) (eg, “I feel confident the rest of my life will turn out well.”), religious attendance, spiritual support (eg, church members “help you to lead a better religious life”), and God-mediated control (eg, “All things are possible when I work together with God.”) were unrelated to sleep quality.

Most recently, White and colleagues used national cross-sectional data from the 2011 Health Related Behaviors Survey of Active Military Personnel to test whether religious involvement (religious attendance and religious salience) moderated or buffered the association between combat casualty exposure (eg, having “seen

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4 Although our review emphasizes the findings of quantitative population-based studies, there is certainly space for qualitative exploratory investigation from the perspectives of science and the humanities. Fundamental questions about how the experience of religion relates to the experience of sleep have yet to be explored. Research along these lines is vital to the development of this literature.