

Religion as Cultural Models: Developing an Emic Measure of Religiosity

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Despite a century's worth of work, lacunae remain in our understanding of the religion-health relationship. Scholars in this field have called for increasingly sophisticated conceptualizations of religiosity that refine its connection to well-being, accounting for both positive and negative associations, while being sensitive to the cultural variations in the experience of religion. This article argues that cognitive anthropological methods provide a novel approach to these issues by conceptualizing aspects of religion as culturally shared "styles of life." Specifically, the combined approaches of cultural consensus and cultural consonance provide an emically valid measure of religiosity that is then linked to health through the psychosocial stress paradigm. Utilizing research among Brazilian Pentecostals within the state of São Paulo, this intrareligious study evaluates the predictive power of religious cultural consonance relative to widely used and established religiosity scales. Religious consonance is found to have a stronger correlation with psychological well-being than comparable measures, suggesting that existing standardized measures miss important dimensions of the religion-health relationship. As such, this article outlines an important area of collaboration between anthropologists and other religion-health researchers.

Keywords: *Brazil, health, cognitive anthropology, cultural consensus, cultural consonance, religiosity, emic.*

INTRODUCTION

After a century of work toward understanding the relationship between religion and health, researchers continue to make important findings and posit new theoretical models (Dein, Cook, and Koenig 2012; Ellison and Levin 1998; Miller and Thoresen 2003). Perhaps the biggest development to come out of recent research is the reconceptualization of religiosity away from single-item measures (e.g., attendance or membership) and toward multidimensional scales that more clearly link religion with the hypothesized mechanisms that shape well-being. For example, various aspects of religiosity and spirituality, such as worldviews, participation in religious communities, and perceived closeness to divine powers, have been measured and connected to health through pathways such as psychological appraisal and coping resources (Koenig, King, and Carson 2012; Levin and Chatters 1998; Moreira-Almeida, Neto, and Koenig 2006; Steffen et al. 2001). But religiosity is a complex, multifaceted concept, making it difficult to define, operationalize, and measure. As a result, findings in the relationship between religion and health are obfuscated, as the various dimensions or conceptualizations of religiosity are differently associated with mental health among various communities and samples. In an effort to address

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this issue, researchers, in several recent review articles, have called for increasingly sophisticated conceptualizations and measures of religiosity that refine the theoretical connection to well-being. Such approaches, it is suggested, need to account for both positive and negative associations, while being sensitive to variations in the experience of religion and religiosity as shaped by specific cultural and denominational beliefs, as well as differences between individual understandings and the orthodoxy of the clergy (Dein, Cook, and Koenig 2012; Hill and Pargament 2003; Koenig, King, and Carson 2012; Schieman, Bierman, and Ellison 2013). The future is wide open for new understandings of the religion-health association.

In this article, I propose a complementary conceptualization and operationalization of religiosity that is informed by anthropological theory. I argue that while many existing measures of religiosity explain important dimensions of the phenomena, they lack “emic” validity—a culturally meaningful measure of religion. Such a culture-specific approach to religion, I contend, provides a nuanced understanding of how some dimensions of religiosity connect to health and well-being within a context that is culturally meaningful to informants. Here, I propose a new means of measuring aspects of religiosity, as informed by recent methodological and theoretical developments within cognitive anthropology. I show that the methods and theory of “cultural consensus” and “cultural consonance” allow the researcher to conceptualize aspects of religiosity as adherence to the norms and ideals of the religious community, thereby addressing some of the questions persisting in religion-health research. First, the method called “cultural consensus” can identify culturally valid meanings (and dimensions) of religiosity. In this approach, informants *themselves* provide the content of a religiosity measure. Second, the combined method and theory of “cultural consonance” explicitly links individuals with their faiths and provides a mechanism (i.e., the stress response) for explaining the range of observed health outcomes. That is, differential adherence to, or “consonance” with, these religious cultural norms accounts for positive and negative health effects within a religious community. Finally, this measure of emic religiosity, understood as fidelity to religious cultural models, will allow for complex modeling of the religion-health association by being readily integrated with other measures of consonance or comparable across faiths along similar thematic domains.

In this article, I begin with a discussion of the cognitive anthropological methods used in this study. Following this, I present a review of some recent religion-health research that coincides with and supports the underlying conceptions of cultural consensus and cultural consonance. Afterwards, I present the findings of my year-long study with two congregations of Brazilian Pentecostals. I show that a cognitive anthropological measure of religiosity is more strongly associated with psychological well-being than conventional global indices of religiosity.

CULTURAL CONSENSUS AND CONSONANCE

Religion is a cultural system. It is a set of shared beliefs and behaviors for interacting with divine forces and orienting one’s self to follow the teachings or dictates of a particular worldview. But in practice, religion is often so much more than that—it is a shared “style of life” that shapes meanings and behaviors of both the sacred and profane (Geertz [1966] 1973:90). Yet, despite its metaphysical and supernatural subject matter, religion operates as any other cultural system—it is composed of “historically transmitted pattern(s) of meaning,” embedded within symbols, language, thoughts, and behaviors (Geertz [1966] 1973:89). As such, religion as culture opens itself for cognitive analysis.

Culture is conceived of as systems of knowledge necessary to function within a social setting (D’Andrade 1995; Holland and Quinn 1987; Shore 1996) and “cultural models” are structural frameworks of specific cultural domains within respective culture systems, containing associated behaviors, relations, and meanings. Indeed, Bourdieu (1977) notes that individuals are constrained by such socially constructed ideals and positions, as in his conceptualization of habitus and doxa.

While creativity and innovation occur, changing prevailing social norms, “they occur within the context of existing social arrangements and collective representations” (see Dressler 2007:31). By their very nature, widely shared, structurally important cultural models are “self-motivating” in that they provide collective meaning and positionality for individual action in social situations (Dressler 2007:33; Handwerker 2002). That said, cultural models may neither be homogeneous nor uniformly distributed among a population. There may be contention, with alternative models shaping alternative cognitions and behaviors, resulting in reflection and negotiating on the part of community members (see Dengah 2014; Dressler, Balieiro, and dos Santos 2015; Hruschka et al. 2008; Snodgrass et al. 2011). For example, while there are models of widely shared gender roles (i.e., orthodoxy), these are contested by alternative roles that enjoy a more limited distribution within a society (i.e., heterodoxy). The significance of these differences and the implication of dominant and alternative models for a community are empirical issues, and the methods described below can evaluate the differential influence of these models on the lives of community members. The point here being that neither monolithic agreement nor complete consensus is necessary for widely shared, structurally important cultural models to frame “social space” and position individuals according to their level of adherence with the cultural habitus (Bourdieu 1984: 244).

The ability to adhere to these cultural models is hypothesized to have a direct influence on well-being. As far back as Durkheim ([1897] 1951), the integration of the individual within the larger sociocultural fabric was known to influence an individual’s health. Other studies expand on this finding by viewing culture as a type of environment that requires a degree of adaptation or integration. And like the natural environment, failure to adhere to or meet the expectation of the sociocultural environment (and the ability to maintain homeostasis) results in psychological and physiological distress. For instance, Cassel, Patrick, and Jenkins (1960) found that migrant laborers in Appalachia experience greater psychological and physical distress than second- or third-generation laborers. Cassel and colleagues concluded that recent migrants hold cultural knowledge that was inapplicable in their new environment. The migrants’ inability to *function*, *interpret*, *predict*, and *control* their new social-cultural environments led to chronic stress and thus higher risk of disease. Similar research finds that the inability to meet the (multiple) expectations of the sociocultural environment results in decreased well-being among a number of populations, including children (maternal busyness and marital status) (DeCaro and Worthman 2008), Puerto Ricans (skin color and SES) (Gravlee, Dressler, and Bernard 2005), and Internet gamers (“real life” and “virtual” success models) (Snodgrass, Dengah, and Lacy 2014).

The ability to identify the impact of a cultural domain on well-being is facilitated by two cognitive anthropological approaches: cultural consensus and cultural consonance. Cultural consensus analysis (CCA) is a methodology that supplies a means to test the hypothesis that a set of characteristics called “culture” is meaningfully shared and distributed among members of a group. Because cultural sharing is necessarily varied, with individuals being more or less similar to one another, it is necessary to understand the distribution of a set of models to determine its saliency and generalizability to the larger community. By using factor analysis, CCA provides a way of quantifying the extent of sharing around a cultural domain. Through various interviewing techniques, including but not limited to semistructured interviews, observations, and free-lists, the domain of focus is identified and populated with terms and phrases that constitute a more fleshed-out cultural model. The researcher creates a series of statements that reproduce the salient aspects of the model, and then elicits informant responses to them. CCA then compares the responses of each individual by creating an informant by informant matrix of response correlations (Weller 2007). Individuals whose responses are more frequently reproduced by other informants are said to have greater “cultural competence.” Such competence scores range from 0 to 1 and provide an estimation of the likelihood of a given informant knowing the correct aggregate response to any of the statements that constitute the cultural model. Through weighting informant answers by their cultural competence scores, CCA provides an estimate of the most culturally agreed

upon set of responses or “answer key” for the tested model. An eigenvalue ratio of 3:1, average competency near or above .5, and few negative competency scores indicate an adequate fit of the model with the data and evidence that respondents are drawing from a single, shared cultural model (Romney 1999; Weller 2007). Applied to religion-health research, informants themselves define what it means to be religious. The various cultural domains or dimensions of religiosity, such as “the ideal faith-based community member” or “having a relationship with the divine,” can be elicited from respondents and verified for emic validity.

It is useful here to take a step back and define more fully what is meant by “emic validity.” Emic validity is a measurement criterion recently introduced by Dressler and Oths (2014), though it is based on the most basic of anthropological approaches (Goodenough 1970). Simply put, this emic approach is concerned with understanding a cultural practice from the point of view of the practitioner. When used to describe cultural practices or to create scales and measures, an emic approach stresses that the terms, phrases, and overall focus be situated in a way that is linguistically and culturally meaningful and salient to the population. In the creation and evaluation of scales, there are several measures of validity, including construct, predictive, convergent, and discriminant validity. Emic validity complements these other criteria by ensuring that the scale, as well as the terms populating the measurement, represents a meaningful cultural reality for the respondents. In other words, “an emically valid measurement is one that orders people along a continuum defined in terms that those people use to talk about that particular cultural domain. It locates people in a space of shared meaning” (Dressler 2015:142). This approach, however, does not replace other forms of measurement validity, and a combination of emic *and* etic perspectives should be empirically evaluated for their usefulness. That said, emic validity does provide an important, insider’s perspective to social phenomena that is useful in measurements that involve subjective appraisal of survey items. Cultural consensus, as shown above, can identify such culturally meaningful, and thereby emically valid, aspects of a cultural domain. Cultural consonance, as discussed below, will take this description of a cultural domain and turn it into a measure of cultural adherence.

Cultural consonance is both a method and theory within cognitive anthropology, and is the natural extension of CCA; it provides a means of linking the behaviors of an individual with the most widely shared expectations of the group (Dressler 1996). Methodologically, the shared cultural model as identified by CCA becomes a measure of adherence for a given domain, and respondents are evaluated by how well their own beliefs and behaviors match that of the culturally agreed upon model. Theoretically, cultural consonance states that the ability to live in sync with these cultural models has a direct impact on well-being. One’s degree of consonance maps that individual within the multidimensional space of his or her community (see Bourdieu 1984). As a result, individuals who maintain high levels of cultural consonance across multiple domains are thought to live more meaningful and stable lives, as outlined by their cultural peers. Low consonance individuals do not meet shared cultural standards and are constantly reminded of their marginal and subordinate status within society through negative social cues (Dressler and dos Santos 2000). It is hypothesized, therefore, that the differences in coping resources and experiences of psychosocial stress will cause consonant individuals to have better measures of health than those who are dissonant. In fact, this association is repeatedly found across many populations of differing social complexity (e.g., Bindon 2007; Dengah 2014; Dressler et al. 2007a; Reyes-Garcia et al. 2010; Snodgrass et al. 2011).¹ For religion-health research, cultural

¹The association of consonance and well-being varies by the domain and population of focus. Characteristics of the cultural domain, such as its relative importance in a community, the saliency and distribution of the model, and the acceptability or availability of alternative models, all shape the psychosocial stressors or rewards associated with cultural consonance. It is hypothesized that culturally important and salient models are more “self-motivating” than others, and as such, have a greater correlation with well-being. That said, “limitedly distributed” but highly valued (by an individual

consonance provides a mechanism by which religion, as a cultural system, is connected to patterns of well-being.

RELIGION AND PSYCHOSOCIAL STRESS

The literature generally supports an overall salutogenic effect of religion, though recent research suggests that certain conditions may result in a negative health correlation (Dein, Cook, and Koenig 2012). In a review of 724 quantitative studies performed prior to 2000, Koenig (2009) finds that 66 percent reported a significant positive correlation between religion and mental health. A minority of studies show no association, and a few find evidence of a negative relationship between faith and psychological well-being. Numerous confounders obscure relationships; for instance, individuals who experience psychological distress also tend to rely on religion for support. Nevertheless, there is a clear trend that religion provides coping resources (e.g., social support, internal locus of control, hope, optimism) that buffer the impact of stressful life events (Moreira-Almeida, Neto, and Koenig 2006). In another meta-analysis of over 147 studies, Smith, McCullough, and Poll (2003) find that religiosity (as it is variously defined) is modestly but significantly associated with lower depressive symptoms. This effect is greater for those undergoing stressful life events than for those who are not, further supporting the idea that religion is most beneficial to those already marginalized in some fashion. The greater impact of religion in decreasing depression among stressed populations is supported by other studies. In a study of 1,428 patients with congestive heart failure or chronic pulmonary disease, Koenig (2007) finds that clinical depression is significantly more common for those who indicated no religious affiliation and among those who score low on intrinsic religiosity. And among psychiatric patients, positive religious coping is seen to significantly predict a remission of depressive symptoms among a sample of 104 elderly psychiatric inpatients (Bosworth et al. 2003).

Under certain conditions, the mechanisms that associate religion with psychological health may cause psychological distress. That is, while the benefits of religious participation stem, in part, from the support and encouragement of the faith, individuals who break social norms may come to view the faith-based community and culture as a source of stress. For example, critical and demanding congregations are associated with increased psychological distress (Ellison, Burdette, and Wilcox 2010; Sternthal et al. 2010). The negative social interactions that arise from constant displays (and audits) of status within judgmental and intrusive communities result in chronic stress, particularly for those whose actions are counter to social norms, and those whose position within the community is not established (see August, Rook, and Newsom 2007; Sapolsky 2004).

Similarly, religious doubts and struggles are also associated with psychological distress. Many religious communities warn members against exhibiting any skepticism of key articles of faith. Individuals who are struggling with their faith often feel isolated from social networks and experience stigma from others for holding contrary beliefs (Galek et al. 2007). It is therefore not surprising that Hill and Pargament (2003) find ample research suggesting that individuals experiencing religious doubt and struggles have higher rates of anxiety, depression, negative mood, panic disorders, and suicidal thoughts (see Ellison and Lee 2010; Exline, Yali, and Sanderson 2000; Hays et al. 2001; Krause et al. 1999; Krause and Wulff 2004).

or subcultural community) can offset or alter the association with health of some more “widely distributed” or dominant cultural norms (see Dengah 2014; Dressler et al. 2013). The role of limitedly distributed models may explain why certain individuals and communities who diverge from dominant cultural norms thrive within a liminal position relative to larger society. This, however, is an empirical question that needs to be examined within the context of specific domains and communities.

The hypothesized mechanism driving these negative health correlations is likely the same one associated with the cultural consonance-health association: psychosocial stress. That is, dissonance with the thoughts and actions endorsed by the religious community results in psychological distress; consonance is met with social capital and support. Such stress or support originates from the interactions with other community members who impose social sanctions or rewards, as well as from the self-appraisal of one's own subjective social status. It is likely that studies positing a negative relationship between religion and mental health may be thought of in terms of cultural consonance. For example, Sorenson, Grindstaff, and Turner's (1995) research among 261 teenage mothers (87 percent unwed) find that those associated with conservative religious groups and those who regularly attended church services have significantly higher levels of depression. Furthermore, depression is highest among those who are cohabitating while currently attending religious activities. It is probable, according to the study's authors, that behavior in conflict with social norms carries a psychological cost. The health impact of perceived deviancy is made more salient when churchgoers are regularly reminded of their contrary behaviors within the community. In another study that followed 155 adults over 30 years, Wink and Scott (2005) find a curvilinear relationship between religiosity and fear of death; individuals who have moderate levels of religiosity have higher anxiety about death and dying than those who are very religious or not religious at all. Further, individuals who believe in the existence of a rewarding afterlife, but who are currently not religiously active, report the highest fear of death. The study's authors hypothesize that individuals who lack a definitive model of morality and a "disjunction between religious beliefs and practices" are more likely to be fearful of death in late adulthood (Wink and Scott 2005:212).

In this limited review of religiosity and stress, the disjunction between religious beliefs and individual behaviors is repeatedly associated with an increase in distress, depression, and anxiety. This is an old hypothesis, with roots stretching back to the anomie hypothesis of Durkheim ([1897] 1951) and cognitive dissonance of Festinger (1957). What cultural consonance uniquely brings to the table, however, is the ability to link the shared beliefs of a group to the behaviors of an individual, and then to measureable health outcomes. As will be demonstrated in the remainder of this article, these cognitive anthropological methods allow the researcher to identify culturally salient dimensions of religiosity (through cultural consensus) and then easily measure the degree of adherence of a respondent to these religiously informed ideals. While this is only one method toward operationalizing religiosity into an empirically useful measure, the efficacy of this approach is such that difference in consonance and health can be elicited even among respondents who, by other measures, are highly religious individuals.

DATA

The data presented here were collected during 2011–2012 in the city of Ribeirão Preto in the Brazilian state of São Paulo. Currently home to approximately 650,000 people, Ribeirão Preto has developed from a small agricultural market center to one of the most affluent cities in Brazil, known for its financial and health-care industries. Ribeirão Preto, along with the rest of Brazil, is experiencing fast and unabated growth among Protestant and especially Pentecostal Christian communities, particularly among poorer and socially marginalized populations (Freston 1995). In the span of 10 years, the national census reported a 77.15 percent increase in the number of self-identified *evangélicos* (i.e., Protestants, the large majority being Pentecostals) in the city, from 67,774 to over 120,000 (IBGE 2010). At the time the data were gathered, this growth represents a 7 percent increase in the total population, and more recent studies suggest that this trend is continuing unabated (G1 2013; IBGE 2000, 2010).

Brazilian Pentecostals are known for their conservative take on the faith, including the literal reading of scripture, strict behavioral taboos, and the incorporation of Apostolic spiritual gifts

during worship (Robbins 2004). These gifts of the Holy Spirit can take the form of glossolalia (speaking in tongues), prophecy, interpretation (of tongues or prophecies), spiritual healing, and exorcisms. Many Brazilian Pentecostals consciously differentiate themselves from other religious traditions, particularly Catholicism, through an essentialized religious identity (Pentecostals refer to one another as *crentes*, literally “believers,” regardless of denomination) and a rejection of important secular cultural institutions such as Carnaval, the samba (and dancing in general), and even *futebol* (soccer). In doing so, *crentes* create cultural boundaries that enforce an essential identity that is positioned at odds with key modes of “Brazilian-ness” (Burdick 1998; Chesnut 1997; Mariz 1994).

The growth of Pentecostalism in Brazil is chronicled as comprising three general stages or waves, which are each noted for unique approaches to the faith (Freston 1995). First-wave congregations were established in Brazil at the beginning of the 20th century. These churches, including the *Assembléia de Deus* (Assemblies of God, AD), are noted for their sectarianism, ideological self-distancing from worldly and secular influences, and an emphasis upon the Pentecostal gift of tongues. The second wave of Pentecostalism coincided with Brazilian urban development between 1950 and 1970. Second-wave churches, such as the *Evangelho Quadrangular* (Church of the Four-Square Gospel), are noted for introducing tent revivals to Brazil that focused on divine healing crusades, as well as pioneering the use of mass media for evangelism (Chesnut 1997). Finally, third-wave Pentecostalism, also called neo-Pentecostalism, developed in the 1980s and was shaped by concurrent modernization and economic processes. Third-wave churches, such as the *Igreja Universal do Reino de Deus* (The Universal Church of the Kingdom of God, IURD), are known for their “health and wealth gospel” that emphasizes the acceptance of worldly blessings (e.g., material prosperity and health) in exchange for obedience within the faith. In general, the first- and second-wave congregations are considered more traditional and conservative than third-wave denominations, which enforce fewer behavioral taboos and do not institutionally monitor their members (Birman and Lehmann 2005; Chesnut 1997; Freston 1995).

Two well-established Brazilian Pentecostal denominations, the AD and the IURD, were chosen to sample the spectrum of Pentecostal belief. As noted above, the AD is theologically more conservative than the IURD, advocating a greater separation between faith and the secular world. The AD also places greater emphasis on the signaling behavior of glossolalia for proof of “baptism in the Spirit.” The IURD is the more antagonistic of the two, often utilizing sermons critical of Catholicism and the Afro-Brazilian faiths of Umbanda and Candomblé. Its use of prosperity theology makes the church in some ways more “worldly” because it incorporates neoliberal capitalist language and views material wealth as a sign of divine favor. Both congregations chosen for this study are located within or very near the city center, and their churches are the main meeting places within the city for their respective denominations.

METHODS

This research was designed to collect data over two research phases. Methodologically, the first phase utilizes cultural consensus to identify and describe the model of the “ideal Pentecostal lifestyle” among respondents within the two Brazilian Pentecostal congregations studied. This first phase is reported on elsewhere (Dengah 2013), but is reviewed to provide the context for later data collection and analysis. The second phase, the focus of this article, constitutes original data analysis. In this latter stage, I utilize cultural consonance to investigate how religiosity, conceived as adherence to the ideal Pentecostal lifestyle, is associated with psychological well-being. This measure of religious congruence is then compared with more global indices of religiosity and spirituality.

Phase I: Cultural Consensus

To identify an emically valid construction of the ideal Pentecostal lifestyle, 32 informants split equally between the two congregations free-listed all the items necessary or indicative of such an ideal Pentecostal lifestyle. Informants were chosen by a convenient sampling of members, identified by their “core” and “elite” status within the community (see Williams [1974] 1984).² Sampling for the CCA research phase, according to Handwerker (2001, 2002), need not be random. Data collection of shared cultural knowledge requires a selection of informants who are integrated within the cultural group and knowledgeable about a specific domain (Handwerker 2001). Efforts were made to recruit equally between men and women who represented a diverse range of ages.

The 39 most frequently listed terms are used to populate a theoretical cultural model of what constitutes the ideal Pentecostal lifestyle (or what informants called *a vida completa*, literally the complete life). Thirty-eight additional informants from each congregation then rank-ordered the terms in order of most to least important for achieving *a vida completa* (see Table 1). CCA of these rankings results in an eigenvalue ratio of 3.81 and an average competency of .49, suggesting that Pentecostals from both denominations conceive of the cultural domain, *a vida completa*, in statistically similar ways. In other words, CCA supports the hypothesis that there is a common cultural model that frames the beliefs, behaviors, and goals of the ideal Brazilian Pentecostal.

A vida completa is a widely encompassing cultural model for Brazilian Pentecostals. As the name denotes, the “complete life” provides a model of living that extends far beyond the pews of the church; it frames the ideal lifestyle in both explicitly religious and seemingly secular terms. Yet, the model is clearly faith based, with items explicitly religious in nature comprising the “most important” upper third, and items more indicative of positive relationships and secular status comprising the middle lower thirds, respectively. This mix of religious and secular is a common characteristic of Brazilian Pentecostals, whose faith is the dominant cultural lens that informs how they understand and act in other cultural spheres (Burdick 1998; Smilde 2007). For example, informants from both congregations mention the importance of a loving family “who have accepted Christ into their hearts”; friends are also important but especially those “who have been saved and serve as righteous role models.” The fact that *a vida completa* is a widely encompassing domain is not dissimilar to Smilde’s (2007) research of Latin American Pentecostals. Working in Venezuela, Smilde finds that Pentecostals’ view improved interpersonal relations and resource security as an explicitly religious project that fuels both conversion and continued participation. That is, Pentecostals are expected to use their faith to change their material and interpersonal conditions, and as a result there is no clear boundary between the sacred and the mundane.

Cultural consensus of *a vida completa* suggests that despite some variations in theology, ritual, and membership, AD and IURD informants draw from a common Pentecostal cultural framework. Due to a mutual doctrinal foundation—as well as the experience of being a minority Protestant faith within Catholic-dominated Brazil—these *crentes* share an understanding of what the ideal Pentecostal lifestyle entails. In part, this is due to the domain in question—*a vida completa* is a widely encompassing cultural model that does not have significant differences based on gender, age, or race. That is not to say, however, that members have an identical understanding of the model. Utilizing the cultural consensus technique, residual agreement analysis (see Dengah

²Melvin Williams ([1974] 1984) defines the two most active segments of a church community as “elite” and “core” members. Elites are those whose “policies, attitudes, and decisions directly influence the pastor’s behavior (Williams [1974] 1984:33). In general, the pastor’s family as well as other church elders and officials are included in this category. “Core” members are defined as those who hold various church positions (e.g., Sunday school teacher) or regularly and substantially invest personal time and finances in the well-being of the religious community (e.g., participating in multiple church committees or groups).

Table 1: Pentecostal “answer key” of *a vida completa*

	Weighted Average Rank
God-fearing	6.71
Putting God before all things	7.52
Relationship with God	7.97
Baptized in the Holy Spirit	8.36
Baptized in water	10.33
Faithfulness/fidelity	10.77
Treating the body like God’s temple	11.56
Reading and studying the Bible	11.58
Give tithes	12.04
Doing the works of God	13.29
Humility/humbleness	15.10
Evangelizing to others	15.34
To be saved	15.49
Loving thy neighbor	15.92
Giving sacrifices	16.80
Faith that God will resolve all problems	17.02
Helping others	17.63
Having a loving family	20.00
Feeling peace in one’s life	20.66
Having one’s family in the church	21.29
Liberated from demons	21.72
Avoiding worldly things	22.24
Never having sex outside of marriage	22.73
Being active in the church community	23.25
Happy with one’s life	23.67
Receiving blessings of health and healing	23.81
Having a strong testimony	24.88
Never using drugs	27.11
Working hard	27.13
Education	27.27
Receiving blessings of prosperity	27.52
Material and economic prosperity	27.59
Fighting against persecution	27.89
Never smoking	28.00
Never drinking	28.58
Having a good job	29.99
Good friends	30.55
Content with a simple, but comfortable lifestyle	30.67
Conquering/achieving the material life	30.70

2013; Dressler 2015), one can look for subcultural variations even in the presence of overall cultural sharing. Through this method, subtle variations based on denominational affiliation emerge. As compared to IURD respondents, AD members slightly overvalue items associated with a separation from worldly behaviors (e.g., drinking and smoking) as well as interpersonal relationships (e.g., being helpful), whereas IURD informants place more importance on religious ritual (e.g., tithes and sacrifices) and the earthly rewards of living a faithful lifestyle (e.g.,

blessing of prosperity). In short, there is minor subcultural variation that is patterned by the first- and third-wave characteristics exhibited by the AD and IURD, respectively. Yet, such variation occurs within the context of larger cultural agreement; there is a single, shared understanding of *a vida completa*. Cultural consensus and its associated analyses are sensitive enough to identify widely distributed *and* subcultural patterns of sharing, ensuring the accurate depiction and emic validity of subsequent scales and measures.

Phase II: Cultural Consonance

In this research phase, questionnaires were administered that focused on the associations of religiosity measures and religious cultural consonance with psychological outcomes. A quota sampling frame was used to recruit 118 core and elite members from two Pentecostal churches located within the city center. Individuals were chosen to represent the age and sex distribution of Pentecostals in the state of São Paulo, based on the most recently available census data (IBGE 2000). After finding consensus for a single, shared model of the ideal religious lifestyle in the previous research phase, respondents were asked the degree to which their own behaviors approximate important characteristics of the model of the ideal Pentecostal lifestyle.

The religious consonance scale measures the ideal Pentecostal lifestyle model as determined by CCA. From the original 39 items tested for domain analysis, 27 items make up the religious consonance scale. Several items are combined given their similar etiology. For example, the prohibitions against smoking, drinking, drugs, and extramarital sexual relations are combined within the more culturally meaningful category of “treating the body like God’s temple.” Likewise, feeling “happiness” and “peace” in one’s life are combined into a single category given their experiential similarities. Sixteen of the items measure general dispositions or conditions; survey participants responded along a four-item Likert agreement scale. Examples of these items include “I have faith that God will resolve all my problems” and “I have been liberated from all the demons in my life.” Possible responses include “complete disagreement,” “disagreement,” “agreement,” and “complete agreement.” Five of these items are reversed coded, so that higher disagreement represents higher consonance with the ideal religious lifestyle (e.g., “Unlike Christ, sometimes I have difficulty loving my fellow man”). Eight items elicit a frequency response—with greater frequency denoting higher consonance. For example, respondents answered on the frequency (never, 2–3/month, 2–3/week, every day) for certain behaviors such as “reading the Bible,” “being baptized in the Spirit,” and “evangelizing to others.” The final three items each employ a unique response scale: the weekly frequency of church attendance (0, 1–2, 3–5, 6 or more), perceived activity within the church community (not active, a little active, active, very active), and the perceived strength of their testimony/faith in God (measured on a scale of 1–10, then scaled to be comparable with other items) (see Table 3).

Utilizing items from the shared cultural model, informants rate the extent to which their behaviors are congruent. There are two ways to calculate consonance scores: weighting the behavioral (consonance) responses by the consensus answer key; and including only those items that are deemed more “important” in the cultural model (Dressler 2005). This research uses the latter method. Specifically, informant consonance with the ideal Pentecostal lifestyle is derived from summing informants’ ratings of their own congruence to the 27 items deemed most important by the first factor answer key.

Measuring Well-Being

Cohen’s Perceived Stress Scale (PSS) (Cohen, Kamarck, and Mermelstein 1983) and the Center for Epidemiologic Studies-Depression Scale (CES-D) (Radloff 1977) measure psychological well-being. This study uses a Portuguese translation of the 10-item PSS, which is widely used and repeatedly shown to be reliable with Cronbach’s alpha coefficients averaging about .8

(Dressler, Balieiro, and dos Santos 1998; Reis, Hino, and Añez 2010). The Portuguese version of the CES-D is also widely used in Brazil and is shown to have high internal consistency and validity (da Silveira and Jorge 2002). Stress and depression are highly correlated with one another and are considered comorbid indicators of more generalized psychological distress (Hammen 2005). Therefore, multivariate analysis utilizes a generalized measure of psychological health. Through principal components analysis, an overall measure of psychological health is created from these two psychological scales; generalized psychological distress shares 79.5 percent of the combined variance of PSS and CES-D measures.

Measuring Religiosity and Spirituality

This study also incorporates various global measures of religiosity and spirituality to compare the predictive power of religious cultural consonance with other established scales. This research uses the five-item Duke University Religion Index (DUREL), a three-dimension assessment of religiosity that includes organizational religious activity, nonorganizational religious activity, and intrinsic religiosity (subjective religiosity) (Koenig et al. 1997; Koenig and Büssing 2010). This scale has good consistency and reliability (Cronbach's $\alpha = .78-.91$, test-retest = .91) and is used in over 100 studies and translated into 10 languages (see also Storch, Strawser, and Storch 2004). The Brazilian Portuguese version of the Duke Religion Index also has high internal consistency (Cronbach's $\alpha = .733-.758$) (Lucchetti et al. 2012).

This study also includes a measure of spirituality. Spirituality and religion, though differentially defined, are importantly linked phenomena associated with religious practices and beliefs, and individual experiences (Dein, Cook, and Koenig 2012; Marler and Hadaway 2002). This study uses the Daily Spiritual Experience Scale (DSES), a 16-item measure of the frequency of experiences that connect the individual with the transcendent in ordinary life (Underwood and Teresi 2002). This scale is widely used and demonstrates internal consistency (Cronbach's $\alpha = .94$ for the General Social Survey samples), and reliability (test-retest = .85) (Underwood 2006). Similarly, this scale has been successfully translated and used in Brazil (Oliveira et al. 2010). In a study with 179 medical patients, DSES shows high internal consistency (Cronbach's $\alpha = .91$) and reliability (test-retest = .94), as well as convergent validity with DUREL ($r = .56, p < .001$) (Kimura, de Oliveira, and Mishima 2012).

Measuring Covariates

Standard covariates of health and stress were collected. In addition to age and sex, perceived social support and socioeconomic status (SES) of respondents are measured. Social support is measured by the Single Item Measure of Social Support (SIMSS) (Blake and McKay 1986). The SIMSS is strongly associated with more encompassing social support measures and is correlated with morbidity (Blake and McKay 1986). SES is measured using the principal component of several measures: a Brazilian occupational ranking scheme of employment prestige (Pastore 1982); the number of years of education; and the monthly income of both the household and household head.

RESULTS

Here, I show how religious cultural consonance, as a predictive and explanatory measure of religion's influence on well-being, compares with other established religiosity and spirituality scales. Table 2 shows the sample characteristics. The age and gender composition of the sample matches that of Pentecostals in the state of São Paulo (59 percent female, mean age 39 ± 15 s.d.) (IBGE 2000).

Table 2: Sample characteristics

Age (range, s.d.)	36.22 (18.76 ± 14.98)
Gender (% female)	58
Socioeconomic status	0 (±1)
Denomination (% AD)	52.5
Social support	2.38 (±1.15)
Religious consonance	0 (±1)
Psychological distress	0 (±1)
DSES	58.9 (±12)
DUREL: Intrinsic religiosity	10.4 (±2.1)
DUREL: Frequency of private worship (response; percent of sample)	Never (1.7%) Few times a month (6.8%) Once a week (4.2%) Two or three times a week (27.1%) Daily (30.5%) Several times a day (29.7%)
DUREL: Frequency of public worship (response; percent of sample)	Never (.8%) Once a year (1.7%) Few time a year (4.2%) Two or three times a month (5.9%) Once a week (8.5%) Several times a week (78.8%)

Notes: $N = 118$. Mean (s.d.) reported unless otherwise noted.

Table 3 displays the mean responses and the item-total correlation for each item in the religious cultural consonance or *a vida completa* scale. The average interitem correlation is .39, indicating good discrimination and carries a Cronbach's alpha of .84, indicating good internal consistency.

Table 4 shows the correlations of each religiosity/spirituality measure with one another. Religious cultural consonance is correlated with DSES, intrinsic religiosity, and frequency of private worship. These Pearson's correlation coefficients lend validity to the religious cultural consonance measure, while showing that cultural consonance is capturing unique variability. Religious cultural consonance, however, is not associated with the frequency of public worship as measured by the DUREL. The probable reason for this lack of correlation is rather straightforward: the five possible responses for this single-item measure range from "never" to "more than one time per week." As this study is concerned with "core" and "elite" membership, frequent weekly attendance is not uncommon. The Brazilian churches of this study hold daily worship and prayer sessions, allowing 72 percent of the sample to report attending more than three public religious events in an average week. Thus, such general measures of attendance may not be culturally relevant for every religious denomination.

To assess the predictive value of each of the measures, the three dimensions of DUREL, DSES, and religious cultural consonance are entered into stepwise linear regression with generalized psychological distress (Table 5). Stepwise regressions insert a variable with the most explanatory power into the model first. If another variable can explain further variance with a significant confidence level, then it enters the model and the process repeats. After controlling for

Table 3: Scale of religious cultural consonance

	Item Mean from Survey Data ^{b, c}	Item-Total Correlation
I was baptized by immersion in water.	2.74	.12
I am saved by Christ.	2.85	.26
I am a God-fearing Christian.	2.81	.37
I put God before all the other things in my life.	2.71	.54
I treat my body like a temple of God, avoiding things spiritually and physically damaging as drugs, alcohol, and tobacco.	2.81	.42
Unlike Christ, sometimes I have trouble loving my neighbor. ^a	1.46	.48
I have faith that God will resolve all the problems in my life.	2.64	.29
Members of my family completely love each other.	1.93	.20
I always pay my tithe in full.	2.47	.47
I do not believe that success and financial prosperity are part of God's plan. ^a	2.03	.35
I feel a deep sense of peace and harmony in my life.	2.41	.31
All members of my family are saved by Christ.	1.78	.16
I feel that I am completely free from demons in my life.	2.66	.35
I like to consume movies, television, music, and other things considered "worldly" and do not directly strengthen my relationship with God. ^a	1.50	.28
I'm happy with having only enough prosperity to live a simple, but comfortable lifestyle. ^a	1.64	.16
Generally, I do not consider myself a humble person. ^a	1.98	.47
Weekly frequency of experiencing baptism in the Holy Spirit.	1.68	.57
Weekly frequency of reading and studying the Bible.	2.17	.51
Weekly frequency of giving offerings and sacrifices to the church.	1.67	.50
Weekly frequency of evangelizing to others about the faith.	1.70	.64
Weekly frequency of praying to God for blessings of health and healing.	2.47	.24
Weekly frequency of praying to God for blessings of prosperity.	2.36	.35
Weekly frequency of doing "God's work" such as volunteering time and services to the church.	1.63	.46
Weekly frequency of studying for personal development.	1.64	.42
Weekly frequency of church attendance.	1.98	.49
How active are you considered in your church community? ^d	2.02	.50
What is the strength of your testimony? ^e	1.42	.49

^aThese items were reversed in direction prior to scoring.^bResponses for items 1–16 ranged from completely disagree (0) to completely agree (3).^cResponses for items 17–25 ranged from *never* (0), to *almost everyday* (3).^dThis item was measured from *not active at all* (0) to *very active* (3).^eThis item was measured from *not strong at all* (0) to *very strong* (3).

Table 4: Scale correlations

	Religious Consonance	DSES	DUREL: Intrinsic Religiosity	DUREL: Frequency of Private Worship	DUREL: Frequency of Public Worship
Religious consonance	1.00				
DSES	.60**	1.00			
DUREL: Intrinsic religiosity	.28**	.45**	1.00		
DUREL: Frequency of private worship	.36**	.35**	.26**	1.00	
DUREL: Frequency of public worship	.13	.13	.18*	.38**	1.00

* $p < .05$; ** $p < .01$ (two-tailed).

Table 5: Stepwise regression of religious measures on well-being

Age	-.01
Gender (Female = 1)	.09
Socioeconomic status	.10
Denomination (AD = 1)	.00
Social support	-.14
Religious consonance	-.50**
DSES	-.23**

Notes: Standardized coefficients (Beta) are reported.

* $p < .05$; ** $p < .01$; $N = 118$; $df = 110$; $R^2 = .49$.

age, gender, SES, denomination, and social support, religious consonance explains 32 percent of the variance in the model. Only the DSES adds any more explanatory power at 3 percent.

Finally, the models in Table 6 show the main effects of religious consonance and the other established religiosity and spirituality measures. While the betas in Table 6 are not strictly comparable, it does show the predictive value of each measure, and allows for the comparison of the total variance explained. After controlling for possible confounding variables, all the commonly used measures of religiosity provide some degree of explanatory power, except for frequency of religious attendance. (The reasons for this lack of significant correlation have been explained above.) DSES, the measure with the largest correlation besides religious consonance, explains 23 percent of the variance, much more than the other measures, but nearly 10 percent short of a *vida completa*. The main effect of religious consonance explains 32 percent of the variance—making it much more predictive than the other metrics.

DISCUSSION

Religious cultural consonance with a *vida completa* is significantly correlated with the psychological well-being of Brazilian Pentecostals. Indeed, the association of religious consonance with psychological health is greater than that of known correlates of well-being, including SES and social support. Importantly, a *vida completa* is more predictive of psychological stress than other measures of religiosity.

Table 6: Comparison of regression results of various measures on well-being

Age	-.07	-.03	-.02	-.02	-.02
Gender (Female = 1)	.00	.02	.05	.10	.06
Socioeconomic status	.01	.01	.05	.06	.09
Denomination (AD = 1)	.25**	.22*	.28**	.15	-.01
Social support	-.27**	-.25**	-.31**	-.26**	-.11
DUREL: Frequency of public worship	-.06				
DUREL: Frequency of private worship		-.22*			
DUREL: Intrinsic religiosity			-.31**		
DSES				-.50**	
Religious cultural consonance					-.65**
R ²	.15**	.19**	.23**	.37**	.46**

Notes: Standardized coefficients (beta) are reported.

*p < .05; **p < .01.

The reason for religious consonance’s greater predictive power is likely due to its increased emic validity—the measure of *a vida completa* taps into what Brazilian Pentecostals feel are necessary to achieve a healthy religious life. While the DSES and two of the three DUREL dimensions are significantly associated with psychological health on their own, they fail to explain significantly more or meaningfully unique variation. Further, one of the most commonly used measures of religiosity, frequency of public worship (i.e., frequency of church attendance), is not significantly associated with generalized psychological distress. The nonassociation of this dimension of DUREL is interesting though the reason is rather simple—it holds little relevance for this population. Whereas in other populations, weekly attendance is a sign of high religious commitment, among Brazilian Pentecostals, weekly attendance is considered underattending. In fact, one denomination in this study, the AD, holds three major meetings every week (Sunday, Wednesday, and Friday), along with a smattering of special interest prayer groups among the other days. The other denomination, the IURD, holds major meetings every day of the week, up to four times a day. As a result, some members not only attend daily, but multiple times every day. A measure of religiosity/attendance that tops out at “weekly” or even “multiple times per week” does not capture the entirety of the spectrum that is meaningful to certain populations.

A vida completa also recognizes that religion, for these Pentecostals, does not end at the church doors. Rather, the ideal religious life encompasses public and private religious activity—in addition to the standards and rewards of living a faith-based lifestyle. Many Brazilian Pentecostals, these informants included, are drawn from peripheral locations with the highly stratified Brazilian society. For these *crentes*, their faith and religiosity help offset their marginalized status in secular society by connecting them to a new set of religiously-based ideals, values, and social relationships. Therefore, positive interpersonal relationships and markers of material comfort are explicitly religious projects that fuel both conversion and continued participation (Smilde 2007). High religiosity, for these informants, incorporates the duties of the faithful (i.e., tithes, reading scripture, attendance), as well as the experiences of the faith (i.e., baptism in the Spirit, expulsion of demons), and the markers of God’s grace (i.e., earthly blessings of health and prosperity). In short, *a vida completa* comprises a comprehensive and holistic measure of this dimension of emic religiosity.

It should be noted, however, that this measure of religious consonance is only one facet of their faith. Spirituality, as shown in the stepwise regressions, accounts for additional mental health variance beyond that explained by religious-cultural consonance. This is to suggest that while religious cultural consonance explains most of the religion-health association for this sample, there exist other religious cultural models, as well as other dimensions of religion and faith, such

as spirituality, that are associated, possibly differentially related (i.e., causing rather than reducing distress), to mental health. For this present study, however, the data support the theory of cultural consonance that is based within psychosocial stress research: an individual who is integrated within a social context and excels at meeting the shared expectations will be rewarded with social capital and increased coping resources. Those who do not, and who are dissonant, will be met by negative social feedback and other punitive measures.

Importantly, this study operationalizes aspects of religion as interconnected cultural models and by doing so puts the triad of host-agent-environment back into the epidemiology of religion. Religion-health studies often focus on the host and the health outcomes with too little consideration of the environment or how the host-agent-environment triad mutually impacts one another. Levin (1996) contends that viewing religion as a psychosocial environment enables important conceptual modeling of religion-health associations. Namely, religion, as a sociocultural environment, prevents or promotes morbidity; it does not cause either healing or disease. Rather, the interaction of the host with his or her social environment (e.g., the host's level of cultural consonance or dissonance within community norms) causes salutogenic or deleterious stress, which causes health or disease. This is critical because some religion-health researchers (e.g., Sloan, Bagiella, and Powell 1999) question the association of religion and health, suggesting instead that the association results from other factors, such as social support, health behaviors, and coping strategies. By considering religion as a sociocultural environment, these so-called confounders can be considered as mechanisms and pathways by which religion is related to the individual, and the individual to health. In other words, "other factors such as social support do not 'explain away' the health effects of religious involvement, but rather elucidate the pathways and mechanisms by which being religious and practicing religion seem to benefit health" (Levin 1996:857). Thus, adapting cultural consonance to the study of religion and health will help us to better understand the mechanism (or mechanisms) by which religion influences health.

Cultural consonance hypothesizes that adherence (or dissonance) with cultural norms influences chronic psychosocial stress exposure, which, in turn, shapes health (Dressler and Bindon 2000). Conceptualizing parts of the religion-health interaction within the stress paradigm not only explains the wide range of health outcomes that have been associated with various dimensions of religiosity, but allows for the evaluation of religion in increasingly complex ways—such as the possible moderation of acute stressors or mediation of health behaviors. Furthermore, this approach associates religion with both positive and negative health outcomes (see Ellison et al. 2001). Consonance with religious norms may aid in decreasing stress levels, and provide a buffer against stressors. Dissonance, meanwhile, may result in guilt and anxiety—which further taxes allostatic states. In contrast to extant religion-stress research that relies on the self-appraised exposure to past acute stressors (e.g., death of loved one, terrorist attack) to determine the buffering power of religion, cultural consonance allows for a contemporaneous and continuous evaluation of chronic stress because of psychosocial pressures.

The method of cultural consensus can also transform the way facets of religion are operationalized and measured. By conceiving certain dimensions of religion as cultural structures that are composed of systems of knowledge, we can conceive of emically validated notions of religiosity or spirituality. Furthermore, the various domains of religiosity can be compared across denominations—allowing for an empirically driven method of comparing valued dimensions of religiosity, and their relative and differential impacts on psychological and physiological health. This culture-based approach may also provide the methodological means of testing why religiosity has a greater association with well-being among marginalized and disenfranchised populations (e.g., Hixson, Gruchow, and Morgan 1998; King, Mainous, and Perason 2002; Steffen et al. 2001). That is, consonance with religion-centric models may compensate for dissonance with widely shared secular models (Dengah 2014; Dressler et al. 2013). For some, religious domains may be valued above or alternative to others, allowing individuals on the periphery of

secular society to achieve alternative means of communal integration and resource acquisition (Powell, Shahabi, and Thoresen 2003).

Despite the predictive value of cultural consonance and robust findings presented above, there are some limitations of this method and study. This research does not argue that religiosity should be only characterized in these cognitive anthropological terms. Rather, the approach presented here provides a novel way of characterizing dimensions of religion and operationalizing them into useful, emically valid empirical measures. This article sought to evaluate this novel approach of conceptualizing and measuring religiosity with other widely used scales. Future research needs to continue such empirical evaluations, particularly in the contexts of different populations and research questions. It should also be noted that these cognitive methods require a substantial time investment of the researcher within the communities of study to accurately identify and describe a culturally relevant and important domain of their religious culture. Similarly, cultural consensus and consonance operate only when respondents share an underlying cultural framework. Using this study's *a vida completa* scale with anyone else but Brazilian Pentecostals is not advised. Each group of respondents needs their own emically valid measure. Yet, techniques are available to create an overarching meta-model even when subgroup differences exist (see Dengah 2013; Dressler, Balieiro, and dos Santos 2015; Hruschka et al. 2008). Or, if multiple religious groups are being compared (e.g., Seventh-Day Adventists, Pentecostals, Hindus), separate "ideal religious life" models may be elicited from each religious community and the associated correlation of the consonance measures may be compared against one another. For better or for worse, these cognitive anthropological methods require that the focus on religion be built into the initial research objective and not "tacked on" within a larger social survey (Hill and Pargament 2003).

This study can only identify the correlation of religious consonance and psychological health and cannot prove a causal factor. However, cultural consonance and psychosocial stress theory parsimoniously predict that stress results from social incongruence and coping resources from congruence. No other mechanism can succinctly explain movement in the other direction, especially given the cross-cultural replication of consonance research. Regardless, both cognitive anthropology and religion-health research would benefit from longitudinal studies that show the effect of gradual enculturation and cultural adherence on the part of neophytes and converts (see Dressler et al. 2007b). Similarly, future research needs to consider the role of cultural consonance causing, rather than mitigating, psychological and physiological distress. While the bulk of cultural consonance research thus far has found positive health associations, it is conceivable that consonance to certain religious models, such as the religious-medical models of certain conservative religions (e.g., Christian Science, Jehovah's Witnesses) result in deleterious outcomes. Future research needs to examine the differential health associations of various religious cultural models among different religious groups.

Additionally, the generalizability of some of the specific findings is limited by the sampling methodology of this study. This research relies on a convenient quota sampling frame for the phases of this project. Further, these respondents represent the active "core" and "elite" membership. Other peripheral members, neophytes, and backsliders are not included in this study. These other members constitute important parts of the community and need to be studied on their own terms and in conjunction with the more active membership. Yet, the fact that this study finds a correlated gradient of religious consonance and mental health among a highly religious sample only further validates the strength of cultural consonance as a measure of religiosity. In other words, this measure appears to be sensitive enough to pick out variations even among the most religiously active. Further studies among the elite and core of the communities, as well as studies that integrate the entire spectrum of community members, are warranted to test this assumption.

Finally, this research is focused on the correlation of religious cultural adherence and self-reported mental health within a sample of Brazilian Pentecostals. Obviously, there are variations on the individual level that are not fully explained by cultural consonance theory alone. Unique

life histories, personalities, self-identity, coping resources, and even genetics may play a role in the relationship between consonance and well-being (see Balieiro et al. 2011; Dengah 2014; Diener, Oishi, and Lucas 2003; Dressler, Balieiro, and dos Santos 1997; Dressler et al. 2009; Reyes-García et al. 2010). Such individual differences can alter the perceived value or importance of cultural adherence, sensitivity and appraisal of stressors, and even awareness of or concern for consonance/dissonance status. Thus, while cultural consonance can account for a large amount of health variance at the aggregate level, more research is needed on accounting for unique characteristics that moderate and/or mediate the relationship. Future research on the role of religiosity generally, and religious consonance specifically, needs to examine how personality, social networks, and conversion careers influence the association of religious adherence and well-being. There is still much to learn about how different aspects and conceptualizations of religion are differentially linked to patterns of mental health.

CONCLUSION

Cultural consensus and consonance can make significant contributions to the study of religion-health interactions by providing a novel approach to operationalize and measure religious behavior. This study views certain dimensions of religion as cultural systems that are composed of prototypes, models, and schemas of ideal thoughts, discourses, and behaviors. Individuals with the ability to meet religious community expectations build increased status while dissonance results in social sanctions and lower status. This formulation of religiosity has several benefits. First, this method operationalizes aspects of religiosity as the cultural domains of a faith-based community. Second, the ideals of a religion are emically defined, which avoids generalization and ensures validity. At the same time, the use of cultural domain analysis enables robust cross-group comparison of religious domains while adherence to religiosity can be empirically compared with measures of physiological and psychological health. Further, the incorporation of religious models within cultural consonance theory provides pathways for both positive and negative health associations.

According to Dein, Cook, and Koenig (2012), the contribution of anthropologists is under-recognized within the epidemiology of religion. This disconnect is due, in part, to the divergence of linguistic, theoretical, and methodological traditions. However, to truly advance the study of religion, we must be open to the methods and advancements in others fields, and critically examine their usefulness with transdisciplinary contexts and research endeavors. The methods of cultural consensus and cultural consonance are particularly apropos for religion-health research by a wide variety of scholars. It provides a means of quantifying religious cultural sharing and adherence, which allows for robust analysis of the health association.

REFERENCES

- August, Kristin J., Karen S. Rook, and Jason T. Newsom. 2007. The joint effects of life stress and negative social exchanges on emotional distress. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 62(5):S304–14.
- Balieiro, Mauro C., Manoel Antônio dos Santos, José Ernesto dos Santos, and William W. Dressler. 2011. Does perceived stress mediate the effect of cultural consonance on depression? *Transcultural Psychiatry* 48(5):519–38.
- Bindon, Jim. 2007. Biocultural linkages — Cultural consensus, cultural consonance, and human biological research. *Collegium Antropologicum* 31(1):3–10.
- Birman, Patricia and David Lehmann. 2005. Religion and the media in a battle for ideological hegemony: The Universal Church of the Kingdom of God and TV Globo in Brazil. *Bulletin of Latin American Research* 18(2):145–64.
- Blake, Robert L. and David A. McKay. 1986. A single-item measure of social supports as a predictor of morbidity. *Journal of Family Practice* 22(1):82–84.

- Bosworth, Hayden B., Kwang-Soo Park, Douglas R. McQuoid, Judith C. Hays, and David C. Steffens. 2003. The impact of religious practice and religious coping on geriatric depression. *International Journal of Geriatric Psychiatry* 18(10):905–14.
- Bourdieu, Pierre. 1977. *Outline of a theory of practice*. New York: Cambridge University Press.
- . 1984. *Distinction*. Cambridge, MA: Harvard University Press.
- Burdick, John. 1998. *Blessed Anastácia: Women, race, and popular Christianity in Brazil*. New York: Routledge.
- Cassel, John, Ralph Patrick, and David Jenkins. 1960. Epidemiological analysis of the health implications of culture change: A conceptual model. *Annals of the New York Academy of Sciences* 84(17):938–49.
- Chesnut, R. Andrew. 1997. *Born again in Brazil: The Pentecostal boom and the pathogens of poverty*. New Brunswick, NJ: Rutgers University Press.
- Cohen, Sheldon, Tom Kamarck, and Robin Mermelstein. 1983. A global measure of perceived stress. *Journal of Health and Social Behavior* 24(4):385–96.
- da Silveira, Darttu Xavter and Miguel Roberto Jorge. 2002. Reliability and factor structure of the Brazilian version of the Center for Epidemiologic Studies-Depression. *Psychological Reports* 91(3):865–74.
- D'Andrade, Roy G. 1995. *The development of cognitive anthropology*. New York: Cambridge University Press.
- de Oliveira, Thaís, Fabíola Darcie Marquitti, Maria Antonieta de Barros Leite Carvalhaes, and Daniela Saes Sartorelli. 2010. Desenvolvimento de um questionário quantitativo de frequência alimentar (QQFA) para gestantes usuárias de unidades básicas de saúde de Ribeirão Preto, São Paulo, Brasil. [Development of a quantitative food frequency questionnaire for pregnant women attending primary care in Ribeirão Preto, São Paulo State, Brazil]. *Cadernos de Saúde Pública [Reports in Public Health]* 26(12):2296–2306.
- DeCaro, Jason A. and Carol M. Worthman. 2008. Culture and the socialization of child cardiovascular regulation at school entry in the U.S. *American Journal of Human Biology* 20(5):572–83.
- Dein, Simon, Christopher Charles Holland Cook, and Harold Koenig. 2012. Religion, spirituality, and mental health: Current controversies and future directions. *Journal of Nervous and Mental Disease* 200(10):852–55.
- Dengah, H. J. François II. 2013. The contract with God: Patterns of cultural consensus across two Brazilian religious communities. *Journal of Anthropological Research* 69(3):347–72.
- . 2014. How religious status shapes psychological well-being: Cultural consonance as a measure of subcultural status. *Social Science and Medicine* 114(1):8–25.
- Diener, Ed, Shigehiro Oishi, and Richard E. Lucas. 2003. Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology* 54(1):403–25.
- Dressler, William W. 1996. Culture and blood pressure: Using consensus analysis to create a measurement. *Field Methods* 8(3):6–8.
- . 2005. Final report to the National Science Foundation Culture and Individual Adaptation — BCS-0090193. Available at <<http://www.as.ua.edu/ant/Faculty/dressler/Final%20Report.pdf>>.
- . 2007. Meaning and structure in research in medical anthropology. *Anthropology in Action* 14(3):30–43.
- . 2015. *The 5 things you need to know about statistics: Quantification in ethnographic research*. Walnut Creek, CA: Left Coast Press.
- Dressler, William W., Mauro C. Balieiro, and José Ernesto dos Santos. 1997. The cultural construction of social support in Brazil: Associations with health outcomes. *Culture, Medicine, and Psychiatry* 21(3):303–35.
- . 1998. Culture, socioeconomic status, and physical and mental health in Brazil. *Medical Anthropology Quarterly* 12(4):424–46.
- . 2015. Finding culture in the second factor: Stability and change in cultural consensus and residual agreement. *Field Methods* 27(1):22–38.
- Dressler, William W., Mauro C. Balieiro, Rosane P. Ribeiro, and José Ernesto dos Santos. 2007a. Cultural consonance and psychological distress: Examining the associations in multiple cultural domains. *Culture, Medicine, and Psychiatry* 31(2):195–224.
- . 2007b. A prospective study of cultural consonance and depressive symptoms in urban Brazil. *Social Science and Medicine* 65(10):2058–69.
- . 2009. Cultural consonance, a 5HT2A receptor polymorphism, and depressive symptoms: A longitudinal study of gene × culture interaction in urban Brazil. *American Journal of Human Biology* 21(1):91–97.
- Dressler, William W. and Jim R. Bindon. 2000. The health consequences of cultural consonance: Cultural dimensions of life-style, social support, and blood pressure in an African American community. *American Anthropologist* 102(2):244–60.
- Dressler, William W., H. J. François Dengah II, Mauro C. Balieiro, and José Ernesto dos Santos. 2013. Cultural consonance, religion, and psychological distress in an urban community. *Paidéia: Cadernos de psicologia e educação [Paidéia: Reports of Psychology and Education]* 23(55):151–60.
- Dressler, William W. and José Ernesto dos Santos. 2000. Social and cultural dimensions of hypertension in Brazil: A review. *Cadernos de saúde pública [Reports in Public Health]* 16(2):303–15.
- Dressler, William W. and Kathryn S. Oths. 2014. Social survey methods. In *Handbook of methods in cultural anthropology*, 2nd edition, edited by H. Russell Bernard and Clarence C. Gravlee, pp. 497–515. Lanham, MD: Altamira Press.
- Durkheim, Emile. [1897] 1951. *Suicide: A study in sociology*. New York: Free Press.

- Ellison, Christopher G., Jason D. Boardman, David R. Williams, and James S. Jackson. 2001. Religious involvement, stress, and mental health: Findings from the 1995 Detroit area study. *Social Forces* 80(1):215–49.
- Ellison, Christopher G., Amy M. Burdette, and W. Bradford Wilcox. 2010. The couple that prays together: Race and ethnicity, religion, and relationship quality among working-age adults. *Journal of Marriage and Family* 72(4):963–75.
- Ellison, Christopher G. and Jinwoo Lee. 2010. Spiritual struggles and psychological distress: Is there a dark side of religion? *Social Indicators Research* 98(3):501–17.
- Ellison, Christopher G. and Jeffrey S. Levin. 1998. The religion-health connection: Evidence, theory, and future directions. *Health Education and Behavior* 25(6):700–20.
- Exline, Julie Juola, Ann Marie Yali, and William C. Sanderson. 2000. Guilt, discord, and alienation: The role of religious strain in depression and suicidality. *Journal of Clinical Psychology* 56(12):1481–96.
- Festinger, Leon. 1957. *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Freston, Paul. 1995. Pentecostalism in Brazil: A brief history. *Religion* 25(2):119–33.
- G1: Globo News. 2013. População católica no Brasil cai de 64% para 57%, diz Datafolha. [Catholic population in Brazil fell from 64% to 57%, says Datafolha]. Available at <<http://g1.globo.com/jornada-mundial-da-juventude/2013/noticia/2013/07/populacao-catolica-cai-de-64-para-57-diz-datafolha.html>>.
- Galek, Kathleen, Neal Krause, Christopher G. Ellison, Taryn Kudler, and Kevin J. Flannelly. 2007. Religious doubt and mental health across the lifespan. *Journal of Adult Development* 14(1–2):16–25.
- Geertz, Clifford. [1966] 1973. Religion as a cultural system. In *The interpretation of cultures*, edited by Clifford Geertz, pp. 87–125. New York: Basic Books.
- Goodenough, Ward. 1970. *Description and comparison in cultural anthropology*. New York: Cambridge University Press.
- Gravlee, Clarence C., William W. Dressler, and H. Russell Bernard. 2005. Skin color, social classification, and blood pressure in southeastern Puerto Rico. *American Journal of Public Health* 95(12):2191–97.
- Hammen, Constance. 2005. Stress and depression. *Annual Review of Clinical Psychology* 1(1):293–319.
- Handwerker, W. Penn. 2001. *Quick ethnography*. Walnut Creek, CA: Alta Mira Press.
- . 2002. The construct validity of cultures: Cultural diversity, culture theory, and a method for ethnography. *American Anthropologist* 104(1):106–22.
- Hays, Judith C., Keith G. Meador, Patricia S. Branch, and Linda K. George. 2001. The Spiritual History Scale in four dimensions (SHS-4): Validity and reliability. *Gerontologist* 41(2):239–49.
- Hill, Peter C. and Kenneth I. Pargament. 2003. Advances in the conceptualization and measurement of religion and spirituality: Implications for physical and mental health research. *American Psychologist* 58(1):64–74.
- Hixson, Karen A., Harvey William Gruchow, and Don W. Morgan. 1998. The relation between religiosity, selected health behaviors, and blood pressure among adult females. *Preventive Medicine* 27(4):545–52.
- Holland, Dorothy and Naomi Quinn (eds.). 1987. *Cultural models in language and thought*. New York: Cambridge University Press.
- Hruschka, Daniel J., Lynn M. Sibley, Nahid Kalim, and Joyce K. Edmonds. 2008. When there is more than one answer key: Cultural theories of postpartum hemorrhage in Matlab, Bangladesh. *Field Methods* 20(4):315–37.
- Instituto Brasileiro de Geografia e Estatística (IBGE). 2000. Censo demográfico 2000: Características gerais da população: Resultados da amostra. [Census 2000: General population characteristics: Sample results]. Available at <<http://www.ibge.gov.br/home/estatistica/populacao/censo2000/populacao>>.
- . 2010. Censo demográfico 2010: Características gerais da população, religião e pessoas com deficiência. [Census 2010: General characteristics of the population, religion and people with disabilities]. Available at <<http://www.ibge.gov.br/home/estatistica/populacao/censo2010>>.
- Kimura, Miako, Acácia Lima de Oliveira, Lina Sayuri Mishima, and Lynn G. Underwood. 2012. Adaptação cultural e validação da Underwood's Daily Spiritual Experience Scale-versão Brasileira [Cultural adaptation and validation of the Underwood's Daily Spiritual Experience Scale-Brazilian version]. *Revista da Escola de Enfermagem da USP [Journal of the USP School of Nursing]* 46(Spec):99–106.
- King, Dana E., Arch G. Mainous III, and William S. Pearson. 2002. C-reactive protein, diabetes, and attendance at religious service. *Diabetes Care* 25(7):1172–76.
- Koenig, Harold G. 2007. Religion and depression in older medical inpatients. *American Journal of Geriatric Psychiatry* 15(4):282–91.
- . 2009. Research on religion, spirituality, and mental health: A review. *Canadian Journal of Psychiatry* 54(5):283–91.
- Koenig, Harold G. and Arndt Büssing. 2010. The Duke University Religion Index (DUREL): A five-item measure for use in epidemiological studies. *Religions* 1(1):78–85.
- Koenig, Harold G., Harvey Jay Cohen, Linda K. George, Judith C. Hays, David B. Larson, and Dan G. Blazer. 1997. Attendance at religious services, interleukin-6, and other biological parameters of immune function in older adults. *International Journal of Psychiatry in Medicine* 27(3):233–50.

- Koenig, Harold, Dana King, and Verna B. Carson. 2012. *Handbook of religion and health*, 2nd edition. New York: Oxford University Press.
- Krause, Neal, Berit Ingersoll-Dayton, Christopher G. Ellison, and Keith M. Wulff. 1999. Aging, religious doubt, and psychological well-being. *Gerontologist* 39(5):525–33.
- Krause, Neal and Keith M. Wulff. 2004. Religious doubt and health: Exploring the potential dark side of religion. *Sociology of Religion* 65(1):35–56.
- Levin, Jeffrey S. 1996. How religion influences morbidity and health: Reflections on natural history, salutogenesis, and host resistance. *Social Science and Medicine* 43(5):849–64.
- Levin, Jeffrey S. and Linda M. Chatters. 1998. Research on religion and mental health: An overview of empirical findings and theoretical issues. In *Handbook of religion and mental health*, edited by Harold Koenig, pp. 33–50. San Diego: Academic Press.
- Lucchetti, Giancarlo, Alessandra Lamas Granero Lucchetti, Mario F. Peres, Frederico C. Leão, Alexander Moreira-Almeida, and Harold G. Koenig. 2012. Validation of the Duke Religion Index: DUREL (Portuguese version). *Journal of Religion and Health* 51(2):579–86.
- Mariz, Cecília Loreto. 1994. *Coping with poverty: Pentecostal and Christian base communities in Brazil*. Philadelphia: Temple University Press.
- Marler, Penny L. and C. Kirk Hadaway. 2002. “Being religious” or “being spiritual” in America: A zero-sum proposition? *Journal for the Scientific Study of Religion* 41(2):289–300.
- Miller, William R. and Carl E. Thoresen. 2003. Spirituality, religion, and health: An emerging research field. *American Psychologist* 58(1):24–35.
- Moreira-Almeida, Alexander, Francisco Lotufo Neto, and Harold G. Koenig. 2006. Religiousness and mental health: A review. *Revista Brasileira de Psiquiatria [Journal of Brazilian Psychiatry]* 28(3):242–50.
- Pastore, José. 1982. *Inequality and social mobility in Brazil*. Madison: University of Wisconsin Press.
- Powell, Lynda H., Leila Shahabi, and Carl E. Thoresen. 2003. Religion and spirituality: Linkages to physical health. *American Psychologist* 58(1):36–52.
- Radloff, Lenore Sawyer. 1977. The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement* 1(3):385–401.
- Reis, Rodrigo Siqueira, Adriano Akira Ferreira Hino, and Ciro Romélio Rodriguez Añez. 2010. Perceived stress scale reliability and validity study in Brazil. *Journal of Health Psychology* 15(1):107–14.
- Reyes-García, Victoria, Clarence C. Gravlee, Thomas W. McDade, Tomás Huanca, William R. Leonard, and Susan Tanner. 2010. Cultural consonance and psychological well-being: Estimates using longitudinal data from an Amazonian society. *Culture, Medicine, and Psychiatry* 34(1):186–203.
- Robbins, Joel. 2004. The globalization of Pentecostal and charismatic Christianity. *Annual Review of Anthropology* 33(1):117–43.
- Romney, A. Kimball. 1999. Cultural consensus as a statistical model. *Current Anthropology* 40(S1):S103–14.
- Sapolsky, Robert M. 2004. *Why zebras don't get ulcers: The acclaimed guide to stress, stress-related diseases, and coping*. New York: Holt.
- Schieman, Scott, Alex Bierman, and Christopher G. Ellison. 2013. Religion and mental health. In *Handbook of the sociology of mental health*, edited by Carol S. Aneshensel, Jo C. Phelan, and Alex Bierman, pp. 457–78. Dordrecht: Springer Netherlands.
- Shore, Bradd. 1996. *Culture in mind: Cognition, culture, and the problem of meaning*. New York: Oxford University Press.
- Sloan, Richard P., Emilia Bagiella, and Tia Powell. 1999. Religion, spirituality, and medicine. *Lancet* 353(9153):664–67.
- Smilde, David. 2007. *Reason to believe: Cultural agency in Latin American evangelicalism*. Berkeley: University of California Press.
- Smith, Timothy B., Michael E. McCullough, and Justin Poll. 2003. Religiousness and depression: Evidence for a main effect and the moderating influence of stressful life events. *Psychological Bulletin* 129(4):614–36.
- Snodgrass, Jeffrey G., H. J. François Dengah II, and Michael G. Lacy. 2014. “I swear to God, I only want people here who are losers!” Cultural dissonance and the (dangerous) allure of Azeroth. *Medical Anthropology Quarterly* 28(4):480–501.
- Snodgrass, Jeffrey G., Michael G. Lacy, H. J. François Dengah II, and Jesse Fagan. 2011. Cultural consonance and mental wellness in the World of Warcraft: Online games as cognitive technologies of “absorption-immersion.” *Cognitive Technology* 16(1):11–23.
- Sorenson, Ann Marie, Carl F. Grindstaff, and R. Jay Turner. 1995. Religious involvement among unmarried adolescent mothers: A source of emotional support? *Sociology of Religion* 56(1):71–81.
- Steffen, Patrick R., Alan L. Hinderliter, James A. Blumenthal, and Andrew Sherwood. 2001. Religious coping, ethnicity, and ambulatory blood pressure. *Psychosomatic Medicine* 63(4):523–30.
- Sternthal, Michelle J., David R. Williams, Marc A. Musick, and Anna C. Buck. 2010. Depression, anxiety, and religious life: A search for mediators. *Journal of Health and Social Behavior* 51(3):343–59.

- Storch, Eric A., Melissa S. Strawser, and Jason B. Storch. 2004. Two-week test-retest reliability of The Duke Religion Index. *Psychological Reports* 94(3):993–94.
- Underwood, Lynn G. 2006. Ordinary spiritual experience: Qualitative research, interpretive guidelines, and population distribution for the Daily Spiritual Experience Scale. *Archive for the Psychology of Religion* 28(1):181–218.
- Underwood, Lynn G. and Jeanne A. Teresi. 2002. The Daily Spiritual Experience Scale: Development, theoretical description, reliability, exploratory factor analysis, and preliminary construct validity using health-related data. *Annals of Behavioral Medicine* 24(1):22–33.
- Weller, Susan C. 2007. Cultural consensus theory: Applications and frequently asked questions. *Field Methods* 19(4):339–68.
- Williams, Melvin D. [1974]1984. *Community in a black Pentecostal church: An anthropological study*. Prospect Heights, IL: Waveland Press.
- Wink, Paul and Julia Scott. 2005. Does religiousness buffer against the fear of death and dying in late adulthood? Findings from a longitudinal study. *Journals of Gerontology: Series B* 60(4):207–14.