Cultural Consonance in Life Goals and Depressive Symptoms in Urban Brazil

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Cultural consonance is the degree to which individuals approximate, in their own beliefs and behaviors, the prototypes for belief and behavior encoded in cultural models. Low cultural consonance is associated with higher psychological distress. Cultural consonance also converges across some cultural domains. Cultural consonance in different domains may converge because of an individual's access to socioeconomic resources, or cultural consonance in multiple cultural domains may occur because these domains are in turn meaningfully—or culturally—organized. These possibilities were investigated in two linked studies conducted in urban Brazil, using mixed methods. A cultural domain analysis indicated that several cultural domains are organized around a broader concept of "goals in life." Cultural consonance in these cultural domains in turn forms a single factor of "cultural consonance in life goals," which is associated with lower depressive symptoms. The implications of these results for the further study of cultural consonance, and for a better understanding of culture, are discussed.

Key words: cultural consonance, culture theory, cultural consensus analysis, Brazil

The relationship between culture, conceptualized as a way of understanding the world that is shared within a social group, and the individual, who variably internalizes and acts on that understanding, has been a conundrum in anthropological theory. A satisfactory way of modeling that relationship is important in many areas of research, including the study of mental health. Without connecting culture to the individual in some theoretically and methodologically satisfying way, how culture influences mental health remains something of a mystery.

The theory of cultural consonance was developed to address this question. Cultural consonance is the degree to which individuals, in their own beliefs and behaviors, approximate the prototypes for belief and behavior encoded in cultural models

(Dressler 2007). Past research has shown that higher cultural consonance is associated with lower depressive symptoms (Dressler et al. 2002). This association has been replicated in a longitudinal study (Dressler et al. 2007a), and it is not mediated by conventional measures of psychological stress (Balieiro et al. 2011). Individuals who have more economic resources have higher cultural consonance, and cultural consonance mediates the association of socioeconomic status and depressive symptoms (Dressler et al. 2015b). Finally, the association of cultural consonance and psychological outcomes has been independently replicated by other investigators (Dengah 2014; Reyes-Garcia et al. 2010; Snodgrass et al. 2013). It is hypothesized that cultural consonance is associated with mental health both because individuals see themselves as unable to live up to widely shared expectations and because they do not receive confirmation of their status as valued members of society in everyday social interaction.

Research on cultural consonance has generated questions that converge with some long-standing problems in culture theory. For example, cultural consonance across multiple domains is positively correlated, and an index that combines several domain-specific measures of cultural consonance is inversely associated with psychological distress (Dressler et al. 2007b). Does cultural consonance in different domains converge in this way because of an individual's access to socioeconomic resources, or are multiple cultural domains important in this respect because these domains are in turn meaningfully—or culturally—organized? This question bears directly on a long-standing problem in culture theory, which is the degree to which culture is patterned, configured, or integrated (Benedict 1932; Brumann 1999; D'Andrade 1995:249; Geertz 1973:19; Lowie 1921).

This paper presents two linked studies that together examine these questions. First, we examine the degree to which multiple cultural domains are configured in a kind of "superdomain" that describes life-span developmental goals. Second, we determine if important elements of this larger conceptual sphere are as yet unidentified. Third, we examine how cultural consonance in these multiple domains converges in relation to depressive symptoms. These results will contribute both to a better understanding of cultural influences on mental health and to a further exploration of the concept of culture.

CULTURAL CONSONANCE AND MENTAL HEALTH

The concept of cultural consonance is based in a cognitive theory of culture. *Culture* is defined as that which one must know to function effectively in a given social setting (Goodenough 1956). Knowledge is distributed across various cultural domains, which are focused areas or topics of discourse and mundane conversation. This knowledge is encoded in shared cognitive structures, including, at various levels of abstraction, schema, scripts, maps, frames, and models. What makes the knowledge encoded in these structures cultural is that it is learned and shared. The

more general of these structures is the cultural model, consisting of the elements (or terms) making up the domain, along with semantic, functional, and causal relationships that are understood to link those elements. A cultural model also contains one or more prototypes, or highly typical instantiations in the domain. Cultural models are what make social life possible, in that shared understanding concerning cultural domains enables us to more-or-less correctly interpret the actions of others. Cultural models are also self-motivating and directive with respect to our own actions, thus sparing us the necessity of having to invent and reinvent life on a daily basis (D'Andrade 1995; Kronenfeld 2011). At the same time, cultural models are highly schematic representations of how life is to be lived, leaving ample room for individual agency and improvisation in social action; nevertheless, as in the analogy with a sporting event, the room for improvisation in social action is demarcated by the basic rules of the game (Crossley 2001).

The development of cultural consensus analysis has contributed importantly to the study of cultural models (Romney et al. 1986). Cultural consensus analysis is a theoretically and methodologically satisfying technique for (*a*) determining the degree to which knowledge is shared among a set of respondents for a given cultural domain; (*b*) determining the degree to which individual respondents' knowledge corresponds to the group's understanding of a domain; and (*c*) calculating a "cultural best estimate" of the content of the knowledge in a domain. The cultural consensus model enables anthropologists to test, rather than to assume, that culture is shared.

As Bourdieu (1977) reminded us, however, a major focus in the analysis of society is to determine how shared understanding and expectations get variably translated into individual behavior and social practice (a point made by Sapir in 1934). The concept of cultural consonance captures this variable relationship between culture and practice. The fact that culture and behavior sometimes do not coincide is a bit of a truism in anthropology, and the concept and measurement of cultural consonance systematizes the analysis of that discrepancy by determining precisely the degree to which individuals enact shared beliefs and behaviors in their lives. That measurement can then be used as a predictor of other outcomes, including mental health.

In our research in Brazil, the cultural domains in which cultural consonance has been investigated were selected on the basis of both theory and ethnography (specifically the reference to those domains in everyday conversation in Brazil). They include lifestyle, referring to the material goods and leisure-time activities considered to be important for having a good life; social support, or different types of persons (e.g., kin, nonkin) who can potentially provide help in times of felt need; family life, especially the characteristics that describe a "good" family; national identity, or what makes Brazilians distinctive; and food. The convergence among cultural consonance in these domains was explored using factor analysis. Cultural consonance in lifestyle, social support, family life, and national identity all loaded on one factor,

whereas cultural consonance in the domain of food loaded on a separate factor. Using factor scores, higher cultural consonance on each factor was associated with lower psychological distress (Dressler et al. 2007b).

There are two major interpretations for this convergence across cultural domains. It could mean simply that people with socioeconomic resources to achieve cultural consonance in one cultural domain can achieve it in multiple domains (for example, correlations of reported household income with cultural consonance range from $r = 0.26$ in the domain of family life to $r = 0.58$ in the domain of lifestyle). Or, these cultural domains could be linked in a meaningful way. They could together describe a collective representation of a kind of "superdomain." Some evidence of this emerged in focus-group interviews. In a focus group devoted to the cultural domain of lifestyle, participants emphasized that a comfortable lifestyle was part of a larger configuration of desired ends at the intersection of family life, social relationships, and satisfaction with working life. As one participant phrased it:

> The financial part, you have to have it. But it's not everything. You get it? It's a series of things that come together throughout your life that you'll have a good quality of life. I think you have to have a well-organized family . . . from there you will study, get a good job, have the money . . . and you must have your friends and religion. Because we don't live without all this, do we?

At the same time, the cultural configuration of these domains, versus the economic resources to achieve them, are not necessarily competing explanations. It is quite plausible that these domains could be both meaningfully linked and that socioeconomic resources provide individuals the opportunity to achieve consonance in all of them.

This quotation from a focus group participant illustrates something else: the participant outlines what is, in essence, a prototypical event sequence in an overarching model of life-span development (Quinn 2011). There is a clear outline of how one organizes and moves through one's life to achieve culturally valued ends. We suggest that this quotation is in fact generated directly out of a cultural model of a preferred trajectory in life.

Two studies, both of which are described here, were carried out to investigate this systematically. The first consisted of a cultural domain analysis of "goals in life" (*metas na vida* in Portuguese). The informant's statement quoted above, along with other ethnographic evidence, indicates that achieving a valued status in each of the domains described represents an overall aim or objective in life which is effectively captured by the phrase "goals in life." The first study was designed to independently evaluate this hypothesis.

The second study was a survey of 477 respondents in four different neighborhoods in the research site (see below) to replicate and extend our previous findings on the convergence of cultural consonance measured in multiple cultural domains, guided by the cultural domain analysis described in the first study.

ETHNOGRAPHIC SETTING

Research was carried out in Ribeirão Preto, an urban center (pop. = 600,000) in the state of São Paulo manifesting the extremes of wealth and poverty found in all of Brazil. Research in Brazil must take into account this income inequality in some way. In cultural domain analyses, we have worked with convenience samples selected to ensure differences by educational level (a proxy for social class). In survey research, we have worked in four neighborhoods differing in socioeconomic status that serve as sampling strata, to ensure that Brazilians from varying socioeconomic backgrounds are represented in the research.

The first and poorest of the neighborhoods is a former *favela* or "shantytown" that developed in the 1980s. The original community was a classic favela formed by residents (about 80 families) "invading" a piece of unused land on a hillside adjacent to a divided highway entering the city. Dwellings were cobbled together from scavenged materials, ranging from cardboard to concrete block and corrugated tin. Although the term *favela* implies an impermanence or lacking foundation, at least parts of such communities can become quite structurally sound, as residents bring in solid building materials and ingeniously tap into municipal power and water lines. Residents generally were unstably employed as day-laborers in construction or on nearby farms, and some worked as domestic servants. In the mid-1990s the municipality, following negotiation with community leaders, razed the neighborhood and moved all residents to a housing project consisting of tiny concrete-block houses. Unlike in their previous area, the residents had to pay for municipal services and their rent contributed to the purchase of the houses. This proved to be problematic for some, and remaining residents estimate that about 60% of the original members of the community drifted to other favelas that were developing in the city. This left some very modest houses open for purchase and led to an influx of new residents with slightly higher means. Hence, the neighborhood changed economically between 1991 and 2001, although it remains dramatically poorer than the other three neighborhoods in our study. In these intervening years some residents expanded their houses and added walls around their yards. For the rest of the city, the neighborhood still has an unsavory reputation for crime and drug trafficking, in large part a legacy of its origins as a favela.

The second neighborhood is a *conjunto habitacional* (literally, "united habitation"), a housing development on the edge of the city built through private-municipal cooperation. Residents are stably employed, mainly as skilled workers (e.g., skilled factory workers, practical nurses, technicians), which is what qualifies them for the low-interest mortgages that are a part of the development. This particular development began in the mid-1990s as basic four- or five-room concrete block houses. With the higher economic resources of the residents, the neighborhood quickly transformed as owners added rooms and even second stories onto their houses. Another aspect of the neighborhood development was commercial. A business district was developed with a supermarket, pharmacies, and retail shops. Although many of

the original residents have remained in the neighborhood, this community has also served as a launching point for upwardly mobile couples.

The third neighborhood is an old traditional middle-class area where residents are intermediate professionals (e.g., teachers, nurses), owners of small businesses, and lower-level managers. This neighborhood originated in the late 1800s and early 1900s with the major European migrations to Brazil from Italy, Portugal, and Spain. It is even named for an early Italian community leader. Many of the streets in the neighborhood remain cobbled, and in the fashion of some circum-Mediterranean cities the walls fronting houses present a seamless barrier to those streets. Inside those walls the houses are large and well-furnished, with Internet connection and cable television. The neighborhood boasts its own Catholic Church located on a large *praça* or square, as well as the largest church of one of the growing Pentecostal Protestant denominations. The business district rivals that of the city center. The neighborhood also holds a prominent place in the collective memory of the city, in that many older residents now scattered in other neighborhoods grew up with immigrant parents there. One former resident has even published a nationally well-received volume of poetry about his experiences as a child in this neighborhood. At the same time, as a result of changing preferences accompanying social and economic mobility, the neighborhood's population is aging substantially, with younger persons of means seeking newer residential options.

The fourth neighborhood is a gated community, home to doctors, lawyers, upper-level managers, owners of large businesses, and university professors. This was one of the first of these *condomínios* (the term for a gated community in Brazil) built in the city, in the 1960s. Houses verge on being enormous, with large and well-tended gardens (tended by domestic servants who may live in the poorest neighborhood described above). The community also has a private elementary school that serves it and nearby wealthy neighborhoods

The studies reported here were carried out jointly as the third in a series of studies of cultural consonance and health conducted every ten years since 1991, employing these same neighborhoods as sampling strata. Thus we have been able to trace their development through a tumultuous time in Brazilian history. One convenient marker for describing the changing economic fortunes of these neighborhoods is to track automobile ownership through time. (A self-report of owning a car is less ambiguous than a self-report of household income; the latter is useful for ranking households, but the precise monetary value of the reports—given as numbers of Brazilian minimum salaries—is difficult to gauge, especially in comparable values through time.) In 1991, 7% of the residents of the poorest neighborhood reported owning a vehicle. By 2001 that proportion had increased to 44%, leveling off at 50% in 2011. In the conjunto, 48% of the sample reported owning a car in 1991, which increased to 72% in 2001 and 84% in 2011.

In the older, traditional middle-class neighborhood, car ownership went from 57% in 1991 to 64% in 2001 and then 63% in 2011. In the wealthiest neighborhood,

car ownership was over 95% across all three studies (and the remaining 5% probably had contracted cars and drivers).

The changing fortunes of our respondents are mainly a function of two processes, one operating at the national level and one at the local level. At the national level, the economic policies of President Fernando Henrique Cardoso, put in place when he was finance minister in the 1990s, were coming to fruition in the first decade of the twenty-first century. Mainly this involved the taming of hyperinflation, which in effect gave all Brazilians, but especially the poor, a more firm economic footing. At the local level, as noted above, the poorest community saw an influx of new residents with more stable incomes. Although this did not alter the neighborhood's place in the overall class hierarchy, household income did rise.

Additionally, the two middle-income neighborhoods moved closer in overall economic standing. Partly this was due, as noted above, to the gradual aging of the traditional middle-class neighborhood. It also stemmed from the conjunto becoming an attractive alternative for young but upwardly mobile couples. In no small part their willingness to buy in the conjunto as opposed to the traditional middle-class neighborhood (closer to the city center, but with fewer houses available for purchase and more for rent) was due to the increasingly available credit both to buy houses and especially to buy automobiles. Even though the conjunto was on the edge of the city, young couples could then afford to buy cars to ease travel to their jobs (the increase in the number of cars in Ribeirão Preto became a continuous complaint in everyday conversation after 2001). Contrast this with members of the poorest community, which is near the conjunto; one of our respondents must leave her house at 5:00 AM each workday for the two-hour bus ride (with two transfers) to her job as a domestic servant of the owner of a popular restaurant (who lives in a gated community).

Furthermore, the early 2000s saw the election of Luiz Ignácio Lula da Silva (or "Lula") and the rise to power, for the first time, of the political left in Brazil. While Lula's policies could do little to raise real incomes among the poor, his initiatives in social policy and education provided the poorest segments of society some direct benefits, but more importantly a real hope for full participation in a national social and cultural life which, to that point, was available to them primarily as an image in the nightly *telenovelas* (or "soap operas") shown on television. The first decade of the twenty-first century was for many more Brazilians a time during which they could envision their futures as including at least the potential to fulfill the aspirations encoded in the Brazilian motto of *Ordem e Progresso* (Order and Progress).

STUDY I: A CULTURAL DOMAIN ANALYSIS OF GOALS IN LIFE
Methods and Results

This first study was a cultural domain analysis exploring the "superdomain" of goals in life (both this study and the following survey study received approval from the

Institutional Review Board for the Protection of Human Subjects of The University of Alabama, and the Ethics Committee of the Faculty of Medicine of Ribeirão Preto, University of São Paulo). We used the classic tools of cultural domain analysis, including free list interviews, pile sorts, rating and ranking tasks, and finally, cultural consensus analysis (Borgatti 1999; Romney et al. 1986). Free lists were collected from a convenience sample of individuals (n = 41; mean age = 39.3 ± 14.2; 53% women; 34.1% secondary education or higher) attending a Saturday morning market in the city center used by people from all socioeconomic strata. Participants were asked to list major goals in life, which resulted in 125 such goals. After reconciling synonyms and alternate phrasing, the items were grouped into nine major categories: work, family, lifestyle, well-being, health, finances, spirituality, education, and others. From these categories, we selected specific items in proportion to the total number of terms in each category, for a total of 32 items. As one respondent in the free list put it: "All of these things represent 'realizations' in life" (*Todas essas coisas representam "realizações" na vida*).

Next, an unconstrained pile sort of these items was obtained from a separate convenience sample (n = 36; mean age = 40.6 ± 12.6; 61.1% women; 66.1% secondary education or higher) selected using snowball sampling in a socioeconomically mixed neighborhood. Respondents were asked to sort cards, each with a single term on it, into piles that were similar in meaning. There was no restriction on the number of piles a respondent could create. For each respondent, this resulted in a proximity matrix for the terms. In that matrix, if two terms are represented in the same pile, a 1 is placed in the cell linking the terms. If two terms do not appear in the same pile, a 0 is placed there. When averaged over all respondents, this becomes a full 32 × 32 matrix in which the cells represent the percentage of respondents placing the two terms together in a pile (see Borgatti 1999), indicating the similarity and differences in meaning among the terms. The pile sort enabled us to explore the cognitive organization of these life goals, along with whether or not that organization was shared by respondents.

A multidimensional scaling of the unconstrained pile sort is presented in Figure 1. Multidimensional scaling can be used to represent the similarities and differences among the terms as a two-dimensional plot that can be visualized, thus facilitating the interpretation of how the terms are organized. The scaling of the inter-item distances in two dimensions is acceptable (stress = 0.18); this stress value indicates that the pattern of terms shown in Figure 1 is very unlikely to have occurred randomly (Sturrock and Rocha 2000).

Also shown in Figure 1 are groups of items derived from a cluster analysis applied to the proximity matrix from the pile sort; it is useful for locating boundaries among groups of terms. The items circled clustered together in a hierarchical cluster analysis (Borgatti 1999). The labels given these clusters were developed by the authors. Starting in the lower-left corner of the graph is a large cluster of items pertaining broadly to lifestyle that includes ownership of material goods (e.g., a house) plus leisure-time
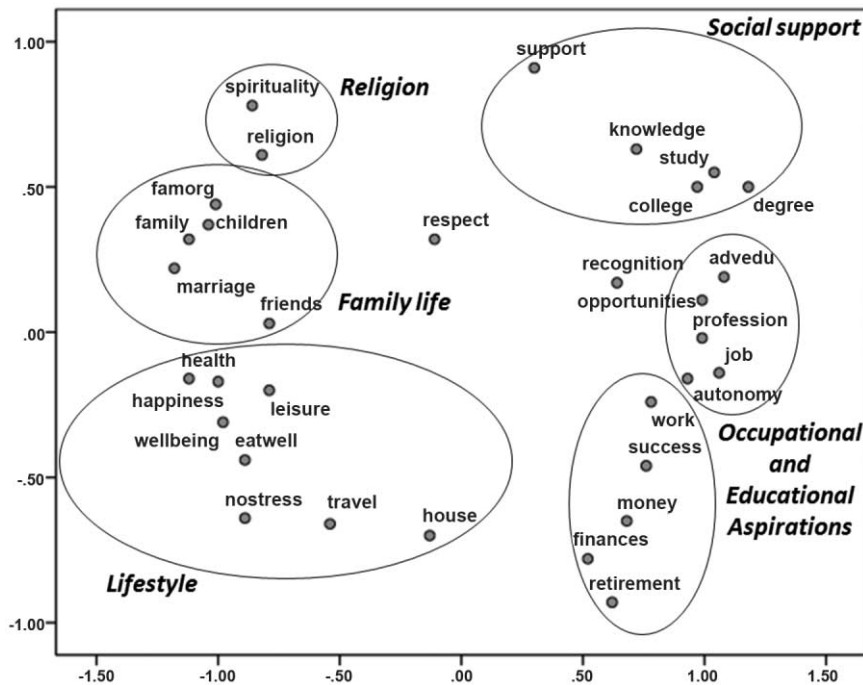
Figure 1. Multidimensional scaling of elements of the cultural domain of "goals in life," with circled terms grouped in a hierarchical cluster analysis (original similarities estimated from unconstrained pile sort of the terms).

activities (travel, leisure) as well as an overall sense of well-being. Above that cluster is a group of terms emphasizing the family, and then above that, one that emphasizes religion and spirituality. In the upper-right corner of the graph is a cluster that combines social support with knowledge accumulation and study. Below that are two clusters that combine more explicit educational and occupational pursuits (including "advedu" or advanced education). Then, at the center of the map are two general aspirations of "respect" and "recognition."

Cultural consensus analysis was used to determine if there is a shared understanding of the organization of these life goals. This analysis indicated an overall consensus (1st/2nd eigenvalue ratio = 4.69; mean cultural competence = 0.59 ± 0.17; respondent reliability = 0.95). Respondents thus shared an understanding of how these life goals are organized. Furthermore, there was no difference in average cultural competence by education (our proxy for social class). In other words, persons from different social classes organized their thinking about these life goals in the same way.

We also asked respondents to rate the importance of these life goals for achieving a good life. Again, there was an overall cultural consensus (1st/2nd eigenvalue

ratio = 3.33; mean cultural competence = 0.496 ± 0.17; respondent reliability = 0.92), and agreement again extended across educational levels. We then explored residual agreement (Dressler et al. 2015a), which is a way of determining if there are subgroup patterns in agreement within the overall consensus. We found that younger persons with higher education tended to rate certain life goals (especially "respect," "religion," and "opportunities for study") as slightly more important than the overall cultural consensus, and that older persons with less education tended to rate other goals (especially "recognition," "finances," and "travel") as slightly more important, but these differences were small in terms of the overall consensus.

Discussion

These results suggest that, when thinking of life goals, respondents spontaneously generated three of the four specific cultural domains we have already studied: lifestyle, family life, and social support. It is interesting that social support clustered with aspects of personal development, something that emerged in previous ethnographic data (Dressler et al. 2005). Some respondents spontaneously linked social support and continued study, saying that self-improvement was an important part of belonging to a social group.

Also, our previous research seems to have missed two important kinds of goals: occupational and educational pursuits, and religion and spirituality. In the second study, reported below, a new measure of cultural consonance in occupation and education was developed; however, the decision was made not to develop a corresponding scale for religion and spirituality. The basis for this decision will be considered in the discussion of Study II.

Finally, and notably, the concepts of "respect" and "recognition" are central to all life goals organized by more-specific cultural domains. All other life goals seem to be arrayed around these aspirations. This would appear to indicate that, as long observed in anthropology, a central motive in social life is to achieve the recognition and respect of other persons in one's society. And, a—or perhaps the—means to achieve that status is to be seen as successfully attaining what are defined as central life goals. That attainment is operationalized in measures of cultural consonance.

STUDY II: CULTURAL CONSONANCE IN LIFE GOALS AND DEPRESSIVE SYMPTOMS
Methods

Survey data were collected from representative samples from the four neighborhoods described above. Maps identifying households were produced for each neighborhood. For each block, households were selected at random and were visited by interviewers (graduate-level Brazilian psychology students, trained by the authors in interviewing techniques). An individual over the age of 18 (male or female head of household) was randomly pre-selected from each household. If only a single head of household was present, he or she was interviewed. Households were dropped from

the sample if three visits produced no contact. The final sample size with complete data was 477. The response rate for the survey research was 39%, which is somewhat low. Although we have no data on those households that refused participation, we did not detect any geographic clustering of the households within neighborhoods, nor were there differences in non-response rates between neighborhoods. Anecdotally, declining response rates in survey research in Brazil appear to be following the same trend observed in the United States (Massey and Tourangeau 2013).

Survey data were collected in face-to-face interviews. The Center for Epidemiological Studies Depression Scale (CES-D) was the dependent variable. This is a 20-item scale of common symptoms of depression. These include symptoms related to mood and morale (feeling depressed, feeling helpless, feeling hopeless about the future, feeling that other people do not like you, and others) as well as physical symptoms of depression (fatigue, sleep disturbance). Respondents report the frequency of each symptom during the previous two weeks on a four-point scale. This scale was translated and validated independently by Brazilian researchers (da Silveira and Jorge 2000). In the current sample the reliability is satisfactory ($\alpha = 0.91$).

Covariates include age (in years), gender (coded women = 0, men = 1), and socioeconomic status. Socioeconomic status was operationalized as a principal component score combining family income (reported number of minimum salaries per month), respondent's completed educational level, and respondent's occupational prestige score (based on an occupational prestige scale developed by Pastore [1982]).

Measurements of cultural consonance—the degree to which individuals incorporate beliefs and behaviors encoded in cultural models into their own lives—are derived from cultural domain analyses carried out in each cultural domain studied. In the current study these cultural domains are lifestyle, social support, family life, national identity, and occupational and educational pursuits. The cultural domain analyses on which the measures of cultural consonance are based were carried out for the first four domains in a previous study (Dressler et al. 2005) and then replicated prior to the current study (Dressler et al. 2015a). The replication study validates the continued use of these measures. To measure cultural consonance in occupational and educational pursuits, the salient items for that cluster of elements from the cultural domain analysis reported above were used as the basis for a new scale for this study (see below).

Again, and importantly, all measures of cultural consonance are derived from cultural domain analyses, and specifically from cultural consensus analysis. In the cultural domain analyses, the relevant elements of each domain and their relative cultural salience or importance are derived. These terms then form the foundation for the measures of cultural consonance, taking into account the relative cultural salience of each term. As such, these measures all have high "emic validity"—that is, they order individuals along a continuum based on the criteria that Brazilians themselves use to talk about the cultural domain (Dressler and Oths 2014). Much more detail on

the derivation of these measures from the cultural domain analysis can be found in Dressler et al. (2005).

To measure cultural consonance in lifestyle, respondents reported whether or not they owned culturally salient material goods (14 items) and if they engaged in culturally salient leisure activities (7 items). These items were employed to measure cultural consonance because they all had been rated as at least "important" for having a good life in the cultural consensus analysis. Material goods were reported as owned or not, and leisure activities were reported on a four-point scale of frequency (from never to several times per week). Cultural consonance was calculated by counting the number of items owned by the individual and the number of frequent leisure behaviors reported by the individual. That sum was then divided by the total to yield a proportion. The closer to 1.0, the more the respondent's own lifestyle matches that of the consensus model.

To measure cultural consonance in social support, respondents ranked seven potential supporters (family, friend, colleague, church member, health professional, a specialist in the area, other person) in the order in which they would seek support from them for each of nine problems (needing a ride, losing your job, relationship problems, problems with your children, problems at your job, needing money, illness, depression, unemployment). A consensus ranking of these support-problem combinations had been obtained from the cultural domain analysis in 2001. Cultural consonance was calculated as a simple correlation between individual rankings and the consensus rankings.

Cultural consonance in family life was measured with an 18-item, Likert-response scale created from the results of the cultural domain analysis from 2001. In that analysis, respondents grouped terms describing the family in categories referring to structure and organization of the family, emotional climate within the family, and behaviors that threaten family cohesion. For the cultural consonance scale, respondents reported their perceptions of their family in those terms. Each item was also weighted by its salience in the consensus analysis. Sample items include the following: (*a*) "Sometimes I wish my family were more organized" (reverse coded to assess family structure and organization); (*b*) "In my family we feel close to one another" (to assess emotional climate); and (*c*) "When I do something, I don't think about my family" (to assess threats to the family). The scale has quite high internal consistency reliability ($\alpha = 0.91$).

Cultural consonance in the domain of national identity was assessed with an eight-item, Likert-response scale. As described elsewhere (Dressler et al. 2005, 2007b), the survey items with the highest internal consistency were those that described negative social characteristics of Brazilians (e.g., "Many people are just too lazy to get ahead in life"). This scale has acceptable internal consistency reliability ($\alpha = 0.60$) and represents "cultural cynicism." That is, those individuals who endorse more of the items have a more cynical view of Brazilians and Brazilian life, but it is a distinctly culturally constructed cynicism (see Matta 1991).

Finally, based on the cultural domain analysis of life goals (reported above), a new measure of cultural consonance in occupation and education was developed. Respondents rated, on a four-point scale, their agreement or disagreement with 13 statements regarding their satisfaction with occupational and educational opportunities. Sample items include "I feel satisfied with the professional opportunities I have had," "In my life, to improve my knowledge is a very important goal," and "I feel that I have achieved success in my life." The scale has acceptable internal consistency reliability ($\alpha = 0.81$).

There were no issues with translation or back-translation of these scales because all items were originally written in Portuguese.

Finally, three competing explanatory variables were included in the analysis, all of which have been shown by other researchers to influence mental health. The first was an inventory of stressful life events. Respondents reported which of 12 major life events (e.g., divorce, death of a family member, job loss) occurred in the year prior to the interview (the measure was developed by Brazilian researchers; Savoia 1999). The second variable was locus of control, measured as health locus of control, using a scale developed by Coreil and Marshall (1982). This scale assesses the degree to which individuals feel that they are in control regarding events and circumstances in their lives, versus being at the mercy of forces beyond their control. This scale was translated into Portuguese in 1991 and used in previous studies (Dressler et al. 2007b); it has acceptable internal consistency ($\alpha = 0.75$) and convergent validity. A scale of frustration tolerance was adapted (Harrington 2005). This measures the degree of frustration that individuals report in response to everyday complications. It was translated, modified, and back-translated by the authors, and it has acceptable internal consistency reliability ($\alpha = 0.92$).

The convergence of the five measures of cultural consonance was assessed with principal components analysis, and the associations of covariates, cultural consonance, and competing explanatory variables with depressive symptoms was assessed with multiple regression analysis.

Results

Descriptive data for the survey results are presented in Table 1, for the sample as a whole and broken down by neighborhood. With the exception of gender, all measures are significantly different between the neighborhoods. The differences in cultural consonance between neighborhoods is a good indication of the importance of economic resources in achieving these culturally salient goals.

Table 2 presents a principal components analysis of cultural consonance in five cultural domains: lifestyle, social support, family life, cultural cynicism, and occupation/education. These five measures of cultural consonance load a single principal component accounting for 44% of the shared variance among the measures. This indicates that all of the measures of cultural consonance are highly enough correlated to be considered as part of an underlying, latent variable. A score calculated for

Table 1. Descriptive statistics (values are z scores unless otherwise indicated)

Variables	Total sample ($n = 477$)	Lowest SES area ($n = 128$)	Lower-middle SES area ($n = 113$)	Middle SES area ($n = 128$)	Upper-middle SES area ($n = 108$)
Age (mean and SD)	48.2 (14.6)	43.5 (14.0)	48.4 (13.0)	50.6 (16.1)	50.6 (13.9)
Gender (% men)	33.5	25.8	36.3	42.2	29.6
Socioeconomic status (SES)	0.00 (1.0)	−0.71 (0.59)	−0.15 (0.70)	−0.15 (0.79)	1.18 (0.82)
Generalized cultural consonance	0.00 (1.0)	−0.63 (0.95)	0.00 (0.84)	0.01 (0.94)	0.73 (0.72)
Cultural consonance in lifestyle	0.71 (0.15)	0.62 (0.14)	0.73 (0.12)	0.69 (0.15)	0.83 (0.08)
Cultural consonance in social support	0.57 (0.15)	0.53 (0.17)	0.54 (0.14)	0.58 (0.19)	0.59 (0.14)
Cultural consonance in family life	101.4 (30.2)	89.8 (29.9)	101.5 (30.5)	103.3 (30.9)	111.3 (25.2)
Cultural cynicism	14.8 (3.9)	16.3 (3.75)	15.2 (3.59)	14.7 (3.90)	12.6 (3.47)
Cultural consonance in education/occupation	24.7 (6.3)	21.7 (5.80)	25.0 (6.03)	24.9 (6.25)	27.8 (5.63)
Stressful life events	1.41 (1.21)	1.64 (1.21)	1.43 (1.23)	1.28 (1.18)	1.26 (1.21)
Locus of control	26.5 (6.10)	24.5 (6.39)	26.2 (5.54)	26.6 (6.24)	29.0 (5.24)
Frustration tolerance	32.1 (10.8)	29.1 (10.4)	30.6 (10.2)	32.2 (10.5)	37.0 (10.8)

Note: Differences between neighborhoods for all variables are statistically significant, $p < 0.05$

Table 2. Principal component analysis of five measures of cultural consonance

Variables	Principal Component Loadings
Cultural consonance in lifestyle	.75
Cultural consonance in social support	.48
Cultural consonance in family life	.74
Cultural cynicism	–.62
Cultural consonance in occupation and education	.68
Total variance explained (%)	43.78

this principal component, referred to as "cultural consonance in life goals," assesses each individual's overall level of cultural consonance.

Table 3 presents a hierarchical multiple regression analysis of depressive symptoms in which standard covariates are entered first (age, gender, socioeconomic status); cultural consonance in life goals, next; and stressful life events, locus of control, and frustration tolerance, third. Net of standard covariates, the inverse association of generalized cultural consonance with depressive symptoms is substantial ($\beta = -0.628$, $p < 0.001$). When competing explanatory variables are entered, this association is reduced, but it remains the strongest single correlate of depressive symptoms ($\beta = -0.493$, $p < 0.001$).

Discussion

In previous research, a tendency for cultural consonance to converge across multiple cultural domains was observed. Higher generalized cultural consonance was, in turn, associated with better mental health status (Dressler et al. 2007b). The current studies were undertaken to examine these results more carefully. There were three principal aims. The first was to determine if there was an overarching cultural organization uniting the cultural domains previously studied, or if the convergence of cultural consonance could be explained more simply on the basis of differentially distributed socioeconomic resources. The second aim was to incorporate additional measures of cultural consonance into the research, given evidence of the importance of additional cultural domains. The third aim was to determine if cultural consonance in these domains, combined as a single measure of cultural consonance in life goals, accounted for individual variation in depressive symptoms.

In answer to the first question, the evidence from the cultural domain analysis suggests that these cultural domains are meaningfully organized in terms of a broader shared construct of "goals in life." The items pertaining to life goals scaled and clustered into groups representing lifestyle, family life, and social support. Furthermore, an additional cultural domain—occupational and educational pursuits—emerged from this analysis, and when a measure of cultural consonance was developed for that cultural domain, it converged with cultural consonance in the other domains (see below).

Table 3. Multiple regression analysis of depressive symptoms in relation to covariates (age, sex, SES), cultural consonance in life goals, and competing explanatory variables (stressful life events, locus of control, frustration tolerance)

Variables:	Standardized regression coefficients		
	Model 1	Model 2	Model 3
Age	–.115**	–.031	–.050
Sex	–.167***	–.137***	–.127**
SES	–.220***	.141**	.158*
Cultural consonance-life goals		–.628***	–.493**
Stressful life events			.082*
Locus of control			–.162***
Frustration tolerance			–.084
R	.302***	594***	.620***
R²	.091	.353	.384

* $p < .05$ ** $p < .01$ *** $p < .00$

Religion and spirituality also emerged as life goals in this analysis, but we did not develop a measure of cultural consonance for it. This was because, in Brazil, cultural models of religion and spirituality have limited social distributions (Dengah 2013). Roughly 60% of the sample are Roman Catholic, 20% are Pentecostal Protestants, 10% are spiritualists of one form or another, and 10% are atheists. Cultural models of religion and spirituality are quite different for each of these groups; hence no measure of cultural consonance could adequately account for individual variation in consonance across the groups. This phenomenon will be discussed more fully below.

Some may wonder what happened to national identity in this cultural domain analysis. A full discussion of this is beyond the scope of this paper; however, briefly, in the cultural domain analysis of national identity, we found that "Brazilian-ness" was organized around the description of traditional Brazilian institutions (e.g., samba, soccer), positive character traits (e.g., hard-working, hospitable), and negative character traits (e.g., lazy; status-conscious; relying on *o jeitinho,* which is a way of getting around rules; see Dressler et al. 2005). When measuring cultural consonance, only the items regarding the negative character traits correlated highly enough to form a coherent scale, one that we labeled "cultural cynicism" because it describes a jaundiced view of what other Brazilians are like interpersonally. As Matta (1991) noted, this form of cultural cynicism is a somewhat infrequently discussed, but prominent, feature of Brazilian social perception. This is the important point here: the scale of cultural cynicism is a culturally defined scale of person perception, or what people are thought to be like in mundane social interaction. As such, cultural cynicism can refer to each of the subdomains making up the larger domain, since interpersonal relationships enter into each.

In regard to the cultural organization of these life goals, the cultural domain analysis indicates that the importance of these cultural domains revolves around issues of "respect" and "recognition" in life. We have argued elsewhere that the fundamental importance of cultural consonance lies in the fact that it is a public demonstration of being a success in achieving what is collectively valued in society (Dressler et al. 2007a, 2007b). It is through demonstrating concretely one's competence, in the broadest sense of that term, in one's society and culture that one achieves the recognition and respect of others.

With respect to the second question regarding measures of cultural consonance in additional domains, we developed a measure of cultural consonance in occupation and education. It also loaded a single principal component along with the other measures of cultural consonance, creating a measure of cultural consonance in life goals.

Some readers might object that the principal component describing cultural consonance in life goals is weak, given that it accounts for slightly less than half (44%) of the shared variance. A more useful way of viewing this, however, is that achieving cultural consonance across multiple cultural domains is not easy. The cultural domain "analysis of life goals" suggests that individuals share a cultural model that these are important "realizations," as our respondent put it. But understanding that, and then being able to structure one's developmental trajectory across the life span to become highly consonant in all the domains, is a different issue. It seems more plausible that realizing consonance in all these domains truly is a goal, but one that can only be achieved with difficulty, and hence only partially, by most people.

With respect to the third aim of this research, cultural consonance in life goals has a large and substantively significant association with depressive symptoms. This association is considerably larger than either standard covariates or other explanatory variables that have been investigated in relation to depressive symptoms. Achieving culturally defined goals in life is thus an important contributor to a sense of personal well-being.

It is worth noting, too, what happens when the five measures of cultural consonance are entered into the analysis as separate variables. As we found in the previous study (Dressler et al. 2007b), the variance explained by the set of five variables in depressive symptoms is roughly the same as the variance explained by the single measure of cultural consonance in life goals. Furthermore, the "effect size" of cultural consonance overall gets spread across the five measures, with no single measure dominating in terms of the magnitude of its estimated effects. In other words, treating these five measures as independent variables still indicates that the optimal state for an individual is to be as high as possible in consonance across all five cultural domains.

There are two means by which cultural consonance contributes to an overall sense of well-being. First, achieving cultural consonance will contribute to what Aaron Antonovsky (1979) referred to as a "sense of coherence." Antonovsky proposed this

concept as a way of understanding pathways to better mental health, defining it as a more-or-less conscious sense that the world is a predictable place and that, in general, things are working out as well as can be expected. In the specific sense of cultural consonance, the cultural models that organize particular domains define and motivate expectations for what one is to achieve in the world, and they are particularly forceful because they are shared expectations. And, for the individual with high cultural consonance, life is indeed unfolding as it is collectively expected to. The sense of coherence that accompanies these realizations in turn contributes to subjective well-being. And, obviously, precisely the opposite is true for persons low in cultural consonance.

The second pathway to this sense of well-being is social. As noted earlier, cultural consonance is not experienced purely subjectively but rather forms a part of our presentation of self in everyday life (borrowing Goffman's [1959] phrase). Our mundane social interactions are mediated in part by this presentation of self, especially in the conditions of near anonymity that govern so many casual interactions in mass society. Yet we also, as shown here, hope for the respect and recognition of others, even in these mundane interactions. Our cultural consonance—which, in other words, is cultural success—precedes us, as it were, as we embody it (in Bourdieu's [1977] sense), and as we engage in what Douglas and Isherwood (1979) referred to as an exchange of symbols (i.e., revealing to others in everyday conversation our location in the symbolic space defined by cultural models). Where we are unable to present ourselves as having achieved at least a modicum of cultural consonance, that hoped-for respect and recognition is likely to be withheld in mundane social interaction. These "micro-stressors" that involve the withholding of status confirmation in social interaction in turn have been shown to have measurable physical and psychological effects (Scheepers and Ellemers 2005).

CONCLUSIONS

The cultural domains and cultural models examined here are clearly of very wide distribution in Brazilian society. As we have shown elsewhere, cultural consensus in these domains extends across groups differing in age, gender, and social class (Dressler et al. 2015b). This is not to say that there are no differences, but most of the variation lies in residual agreement, not in overall cultural consensus. Residual agreement refers to sharing within subgroups that includes, but then goes beyond, the overall cultural consensus (Dressler et al. 2015a). For example, these data show a substantial overall cultural consensus regarding elements of a good family, and the major components of the domain are grouped as structure and affect. That is, both a clear structure (family rules, organization) and warm affective bonds are considered important "to have a family" (as our Brazilian respondents would phrase it). There is a tendency, however, for lower-class respondents to privilege the importance of family structure, and for middle-class respondents to emphasize the importance of affect. But this is in the context of both groups emphasizing the importance of

both categories of family characteristics (Dressler et al. 2015b). Therefore, cultural consensus in these cultural domains is distributed widely.

In the Brazilian context, it is paradoxical that cultural consensus in cultural domains defining life goals is so widely distributed given the degree of social inequality that exists. The collision of the shared cultural construction of life goals and the structural constraints on achieving those goals is all too apparent, and the Brazilian case illustrates graphically how, in some contexts, low cultural consonance and the accompanying psychological distress are nearly inevitable (Dressler et al. 2015b). This also illustrates the added ethnographic value of these mixed methods, in that they provide an insight on processes that must be understood emically, while at the same time providing the tools to document variation and the association of factors with measurable outcomes.

Other investigators have examined cultural consensus and cultural consonance in other cultural domains of a more limited distribution. For example, as Dengah (2013) has shown, Brazilian Pentecostal Protestants strongly share a cultural model of what it is to be a good member of the congregation (or *evangélico,* as they are referred to in Brazil), which is to live "the complete life" (*a vida completa).* Higher cultural consonance with the cultural model of the complete life is associated with lower psychological distress. But evangélicos live in the wider world as well as in the more limited social orbit of their congregations. Dengah (2014) found that cultural consonance in "the complete life," and cultural consonance in lifestyle and family life (measured as reported here), interacted in relation to psychological distress. That is, having higher cultural consonance in "the complete life" actually enhanced the inverse association of cultural consonance in lifestyle and family life with psychological distress. For this group, cultural consonance in the wider social world and cultural consonance in their smaller world of the church are mutually reinforcing.

In a different example, Snodgrass et al. (2013) examined cultural consonance with a cultural model of success in the wider world and cultural consonance with a cultural model of success within Azeroth (a virtual world) for players of the online game World of Warcraft (WoW). The outcome variable they examined was "problematic WoW play," or a form of Internet addiction. They found that persons higher in cultural consonance in success in the wider world had lower levels of problematic play, whereas persons with higher cultural consonance with success within Azeroth had higher levels of problematic play—and the two measures of cultural consonance were independent. In this study, cultural consonance in the wider world and cultural consonance with a model of limited distribution (or WoW) were unrelated and had different associations with the outcome.

In his study of Brazilian Pentecostals, Dengah (2013) sampled one congregation with a "health and wealth" gospel; that is, a part of the motivation for becoming an evangélico is actually to achieve success, and hence cultural consonance, in the wider world. With Snodgrass and associates' respondents, on the other hand, the whole point of the virtual world is to escape the perceived confines of the "real"

world. In other words, the nature of these respondents as social groups, and hence the understandings they share, point to the way in which cultural models are integrated. In the study presented here, that integration stems from the organization of specific cultural domains into a wider domain of life goals. In Dengah's study, cultural integration is achieved through the synergistic effects of models of wide distribution and one of limited distribution, whereas Snodgrass et al. present an example of consonance with alternative and essentially unrelated cultural models. What this means is that a careful ethnographic and social analysis of specific cultural contexts can elucidate both what kinds of cultural domains structure everyday life and how a variety of cultural models salient or important for those specific contexts will, or will not, be integrated.

The results of these studies have implications beyond the study of culture and mental health. For example, in cognitive culture theory, the concept of cultural domain is central, defined simply by Borgatti (1999) as a "mental category." So, for example, here our participants had categories for domains such as lifestyle and family life, and these were included under a broader category involving life goals. What makes these mental categories cultural is that they are shared ways of understanding the world. What is somewhat unclear, however, is how we talk about these cultural domains at various levels of abstraction, and especially larger domains that incorporate other domains within them. For heuristic purposes we referred to goals in life as a "superdomain," but again, that was merely heuristic. A clearer way of thinking about domains within domains would be theoretically useful, and it would be empirically useful as well. For example, in this research we examined cultural domains organizing life goals at both the more specific (i.e., lifestyle, family life) and the more abstract (i.e., the cultural domain analysis presented here) levels. Was this necessary? Could we have developed a single scale of cultural consonance in life goals rather than creating a multiscale factor? We do not have answers for these questions; we raise them to suggest that it would be useful to examine such issues in future research.

These results are relevant as well for thinking about the broader concept of culture in anthropology. Throughout much of the history of anthropology, the notion of the configuration of culture has been problematic. Some of the Boasians rejected the notion that different categories of culture fit together in a meaningful way (e.g., Lowie 1921), while others elevated the seamless articulation of different dimensions of culture to a centerpiece of their theory (e.g., Benedict 1932). In the more recent history of culture theory, the idea that culture represents some overarching, integrated, "totalizing" phenomenon was ridiculed as at least antiquated, if not downright oppressive, by those who wished to place discourse and power at the center of anthropological analysis (Brumann 1999). In a kind of middle ground, theorists as different as Geertz (1973) and D'Andrade (1995) argued that there was some integration of different dimensions of culture, although it was not as tight and smooth as earlier writers made it out to be.

The results presented here bear on this debate, but primarily in terms of a somewhat greater analytic precision than is often encountered. These results are consistent with the idea that different dimensions or domains of culture are indeed integrated because they are cognitively and culturally organized into broad goals to which energies in daily life are directed. In Strauss's (1990) terms, these cultural domains and their cultural models are integrated both vertically, in the sense that they fall under a more general cultural construction (i.e., goals in life), and horizontally, in that they are functionally linked (e.g., respondents see occupational success as dependent in part on having a good family). At the same time, the convergence in individual cultural consonance is another form of cultural configuration, but one found in social practice that is at least in part dependent on socioeconomic resources. This also bears on the question that motivated this study in the first place, in that both a cultural configuration and underlying socioeconomic resources help to explain the convergence of cultural consonance in individual lives across these specific cultural domains.

On the other hand, as the work of Dengah (2013, 2014) and Snodgrass et al. (2013) clearly shows, the relatively wider or narrower social distribution of cultural models, as well as the directive functions performed by those cultural models within those specific social contexts, must be taken into account in understanding the degree to which models are or are not integrated, at the level of either cultural consensus or cultural consonance. In the most general terms, then, this research suggests a new avenue for research on cultural configuration, which would involve examining how both cultural consensus and cultural consonance are organized relative to specific cultural domains within specific social contexts.

As noted at the outset, the question of the configuration or integration of culture is an old one in anthropology, and new concepts and new methods may help to reveal the underlying cultural and social processes contributing to varying degrees of the integration of culture.

NOTE

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