Traditions and Alcohol Use: A Mixed-Methods Analysis

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Abstract

An integrative mixed-methods analysis examined traditional beliefs as associated with beliefs about self-care during pregnancy and with alcohol abstinence among young adult women from two rural U.S.–Mexico border communities. Quantitative (measured scale) variables and qualitative thematic variables generated from open-ended responses served as within-time predictors of these health-related outcomes. A weaker belief that life is better in big cities was associated with stronger self-care beliefs during pregnancy. Also, a weaker belief that small towns offer tranquil environments was associated with total abstinence from alcohol. Regarding the *Hispanic Paradox*, these results suggest that a *critical* appreciation of cultural traditions can be protective, as this avoids stereotypical or idyllic views of urban or rural lifeways, and promotes self-protective beliefs and behaviors.

Keywords

family traditions; rural lifestyle; mixed methods; Hispanic paradox; alcohol use

The "Hispanic Paradox"

Among women from rural communities, traditional lifeways (traditionalism) may promote certain healthy outcomes (Coe, Attakai, Papenfuss, Giuliano, Martin, & Nuvayestewa, 2004); by contrast, a loss of cultural traditions during the process of acculturative change may promote disease or disorder. Recent Hispanic health research has identified an *Hispanic paradox* among low-acculturated Hispanics/Latinos,[1] that is characterized by unexpectedly lower rates of adverse health outcomes observed among the least acculturated Mexican immigrants relative to their more acculturated Mexican American peers. This paradox has been observed within three health-related areas: the perinatal health of Hispanic/Latina women, mortality rates from cardiovascular disease, and rates of psychiatric disorder (Vega et al., 1998).

Perinatal studies of low-birth-weight infants (Balcazar, Krull, & Peterson, 2001; Fuentes-Afflick, Hessol, & Pérez-Stable, 1999; Gould, Madan, Qin, & Chavez, 2003) have shown healthier birth outcomes among the poorest and least acculturated Mexican women relative

[1]We use the terms *Hispanics* and *Latinos/Latinas* interchangeably, as both forms are used within the literature to refer to people from the United States who are of Hispanic origin.

to more acculturated and affluent Mexican American women. Similarly, in community-based studies of diagnosed psychiatric disorders, low-acculturated migrant Mexican farm-workers, when compared with native-born Mexican Americans and with non-Hispanic White Americans, exhibited the lowest rates of psychiatric disorder (Alderete, Vega, Kolody, & AguilarGaxiola, 2000). Some investigators have argued that methodological flaws produce these paradoxical effects (Palloni & Morenoff, 2001; Smith & Bradshaw, 2006), whereas others have argued that observed confounds do not obviate these paradoxical effects (Morales, Mara, Kington, Valdez, & Excarce, 2002). The recent assertion by Smith and Bradshaw (2006) that the Hispanic paradox does not exist is based on a study that uses a Spanish surname as a proxy measure for Hispanic ethnicity and also defines health advantage narrowly by using mortality as their major health outcome. Unfortunately, several of these studies have not examined deeper aspects of culture, such as traditional beliefs and behaviors, as potential mediators of salubrious health outcomes, despite exposures to poverty and adversity. Accordingly, the literature remains unclear regarding possible mechanisms that may mediate a variety of salubrious health outcomes. More refined and theory-driven studies are thus needed to examine this Hispanic paradox (Mendoza & Fuentes-Afflick, 1999) from a deeper and more integrative cultural perspective.

Culture, Traditions, and Resilience

The social–cognitive theory of gender development (Bussey & Bandura, 1999) has postulated that certain cognitive and social factors operate as self-regulatory influences on gender-linked conduct. In turn, these factors are rooted in culturally learned outcome expectations (i.e., social and self-imposed sanctions regarding conduct perceived as congruent or as incongruent with perceived gender norms). Such cultural and personalized standards of conduct may guide self-directed behavior in ways that introduce protection against health problems, including the use of alcohol, tobacco, and other drugs (Cuadrado & Lieberman, 1998).

Traditional cultural expectations constitute specific, often gender-based, norms that influence behavior by specifying rewarding or adverse outcomes as consequences of specific behaviors (Bussey & Bandura, 1999). Specifically, regarding the consumption of alcohol, Mexican gender-linked traditional cultural expectations communicate community disapproval of alcohol use by Mexican women while communicating a community acceptance of alcohol use among men. In the past, disparities in the rates of alcohol use by Mexican men relative to Mexican women have been shown to be greater than differences observed among White American men and women (Karno, Hough, Burnam, et al., 1987). These notable epidemiological differences by gender and ethnicity implicate the effects of traditional gender-linked attitudes and expectations regarding the use of alcohol, tobacco, and other drugs. Within traditional rural Mexican communities, alcohol use has been regarded as incompatible with *Marianismo*, the idyllic image of a motherly woman (Cuadrado & Lieberman, 1998; Gil & Vazquez, 1996). As one social indicator of the effects of cultural and gender norms on alcohol use, a large epidemiological study of alcohol use conducted within three cities in Mexico (Slone, Norris, Rodriguez, et al., in press) reported lifetime rates of abstinence from alcohol (defined as consuming 12 drinks or less in a lifetime) to be 66% for Mexican women versus 23% for Mexican men. As noted previously, within traditional communities, Mexican men have typically been allowed to consume alcohol freely, whereas Mexican women have been discouraged from doing so. Thus, the reported high rates of abstinence among urban Mexican women would be expected to be equivalent and perhaps not as high as those among rural Mexican women, given that traditional gender norms are often more salient within rural communities. However, these traditional cultural practices are also changing under the ubiquitous processes of acculturation and modernization (Markides, Ray, Stroup-Benham, & Trevino, 1990).

Cultural traditions are products of learned and shared standards for behavior (Harwood, 1981) that are transmitted from elders to children. Traditional people, by definition, adhere strongly to their traditional lifeways although among Mexican-heritage people this adherence is often challenged by ubiquitous pressures to acculturate into modernistic American society (Ramirez, 1999). A dynamic tension exists worldwide today between sociocultural forces that endorse the preservation or reestablishment of *traditionalism* (adherence to long-standing cultural beliefs and customs) and sociocultural forces that endorse *modernism* (Westernized changes involving the adoption of new lifeways that include innovative and culturally different beliefs and behaviors; Triandis, 2000). Within the southwestern United States, these dynamics are sustained by sociocultural mobility, the ongoing immigration from Mexico to the United States; across the United States, these dynamics are sustained by migration from rural to urban communities (Massey, Durand, & Malone, 2002). Despite facing many chronic stressors, many migrants and immigrants will nonetheless exhibit remarkable resiliency, possibly derived from traditional cultural lifeways that encode prescriptive and often restrictive guidelines aimed at promoting survival and health.

Need for Rigor in Qualitative Methodologies for Research

The field of qualitative research has been rich in strategies for entering the field but relatively weak in methods for the analysis of textual information (verbal evidence). Whereas such linkages may be explored using visual case-ordered and predictor-outcome matrix methods to cross tabulate categorical information (Miles & Huberman, 1994), questions remain regarding the confirmability[2] of such analyses. This limitation raises questions about the strength of conclusions derivable from such analyses. Qualitative methods, however, introduce an important tool in the study of culture. In this regard, the measurement of complex cultural constructs, such as traditionalism, in the form of traitlike variables tends to decontextualize these constructs from their full cultural meaning. By contrast, qualitative narratives richly capture nuance and complex meanings associated with these constructs, although it has been difficult to specify relationships between these constructs; for example, how is traditionalism associated with acculturation? Furthermore, prior mixed-methods studies have typically used qualitative and quantitative methods in sequential order, such as by gathering focus-group information during an initial stage followed by survey research methods during a subsequent stage (Creswell, 1994; Tashakkori & Teddle, 2003). Unfortunately, few studies have effectively integrated both methods within a concurrent and integrative research design and related data analytic plan (Dreher, 1994; Hanson, Creswell, Clark, Petska, & Creswell, 2005). Given the respective strengths of the qualitative and quantitative approaches when used separately, it would be advantageous to develop an integrative methodology for the concurrent use of both methods to capture the

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[2]The criteria for quality in qualitative analysis differs from the conventional criteria of reliability and validity used in quantitative analysis (Marshall & Rossman, 1995). These criteria are as follows:

Trustworthiness (accuracy and meaning of generated categories as presented to members of the group who generated the narrative responses);

Credibility (related to trustworthiness and refers to evidence that the participant of a study was accurately identified and described and thus is considered "credible");

Transferability (demonstrating that the study findings can be transferred to and are applicable to similar settings; differs from generalizability in that transferability involves relevance to a new setting);

Dependability (examining the context and influence of changing conditions in the study phenomena, as well as changes in the design of the study as it unfolds); and

Confirmability (whether the results of a study can be confirmed by another, it safeguards against biases introduced into the study by distortions in observation or interpretation imposed by the investigator).

descriptive richness of text narratives as well as the precision in measurement and hypothesis testing afforded by quantitative methods (Carey, 1993; Hanson et al., 2005).

A Paradigm for Integrative Mixed-Methods Research

Figure 1 presents a paradigm for an integrative mixed-methods approach to such research. This integrative process begins with conceptualizing information as research evidence, which can take the form of verbal text narrative evidence (qualitative) or numeric data evidence (quantitative). Based on theory, a core construct (e.g., traditionalism) can be featured as a central concept examined under each of six stages within a parallel process that facilitates data conversions, (e.g., axial coding) to encode thematic categories into numeric thematic variables. The greater the qualitative–quantitative parallelism in the study design and its implementation, the easier it is to compare and contrast textual and numeric forms of evidence in an integrative manner. The aim is to examine evidence in both forms concurrently to obtain more definitive conclusions and for a more complete understanding of complex cultural constructs and their effects.

Research Hypotheses

The present study examines several elements of the construct of traditionalism in a sample of women who are residents of two traditional rural communities, as traditionalism may be related to abstinence from alcohol use and self-protective beliefs.

Hypothesis 1: It is hypothesized that, among these rural young adult women, those who are most traditional will express the greatest self-protective beliefs about self-care during pregnancy, as this involves an avoidance of alcohol and other drugs.

Hypothesis 2: It is also hypothesized that the most traditional of these women will be those most likely to abstain from the use of alcohol.

Method

Participants and Procedure

Study participants were selected as a subsample of 77 women drawn from a larger study of 318 women who were eligible to receive outreach perinatal care services from the Arizona Health Start Program. This subsample received the qualitative open-ended questions as part of a face-to-face interview. The two communities in which the Health Start program was delivered are Arizona rural communities located near the U.S.–Mexico border, one in southwestern Arizona and one in south central Arizona. Bilingual/bicultural peer health workers (i.e., *promotoras*, lay health workers) were trained to conduct these interviews in the homes of eligible women who agreed to participate. The promotoras who conducted these interviews were not from the community in which they conducted the structured interviews, as this might have introduced bias.

Analytic Approach, Instruments, and Data Collection

The aim of collecting open-ended text narratives was to identify stable thematic categories generated inductively from text narrative responses to specific focus questions. This approach gives voice to the "insider" views of study participants. The structured 1-hr interview, "A Mother's Story," consisted of 14 sections and included items regarding the mother's cultural background, as well as the scales Family Traditionalism, Rural Lifestyle, and Folk Beliefs, along with other measures that examined the mother's level of acculturation, cultural involvement, and pregnancy-related attitudes and behaviors. Tested and translated versions of this survey and open-ended questions were developed for use with

study participants who spoke either English or Spanish (Geisinger, 1994; Gonzalez, Stewart, Ritter, & Lorig, 1995).

Open-Ended Questions: Normative Beliefs About Family and Rural Lifestyle

Three open-ended questions were presented to each respondent prior to the traditionalism scales to avoid exposure to ideas about traditionalism as contained within the traditionalism scales. These questions asked about family traditions and rural lifestyles. These open-ended questions were constructed in a focus-group format, although presented individually to each participant, thus having each respondent serving as a "focus group of one." By means of this methodology, each participant's responses constitute independent observations that allow a statistical analysis of responses, which is not feasible in the conventional analysis of focus group information. The first of these focus questions was developed as an inductive query to help low-educated, low-literacy women respond to the abstract concept of traditionalism. This first question asked concretely about the beliefs of an idyllic woman, Maria. The first and second of these three open-ended traditionalism questions introduced this idyllic woman, Maria, who was identified as being "very traditional." For the general domain of cultural traditionalism, these questions were as follows: "What is Maria like? How does she think or act? What does she believe and what does she do?"[3] These questions prompted personalized responses that reflect the person's own beliefs but could also prompt the participant's attributions about the beliefs of others; that is, normative beliefs about traditions. Second, for the domain of family traditionalism, we asked the following: "Many 'traditional' people like Maria have strong beliefs about how husbands, wives, and children 'should' act; what is the 'right way' to act, and what certain family members are supposed to do. Please tell me some of these beliefs." A third question asked about lifestyles prevalent within rural environments. Thus, for the domain of rural lifestyle, we asked the following: "Many 'traditional' people like Maria believe that life in a small rural town is better than life in the big city. Please tell me some of these beliefs." Although participants were provided these specific questions in a concrete format, they were encouraged to offer their own personal views whether in agreement or in disagreement with the question posed.

Traditionalism Scales

Family traditionalism—The Family Traditionalism scale is an eight-item scale that asks about traditional family beliefs and behaviors (Castro & Gutierres, 1997). The original items were drawn and adapted from the Traditionalism–Modernism Scale developed by Ramirez (1991). In a prior community-based study, this Family Traditionalism scale was translated into Spanish (as was the Rural Lifestyle scale) and was tested in a sample of 571 Hispanic women (Castro et al., 1995). Equivalent Spanish and English versions of this scale were used in the present study. In our sample of 77 community women, the Family Traditionalism scale exhibited good scale reliability, $\alpha = .75$. A representative item is, "Traditional celebrations, such as baptisms, weddings, or graduation ceremonies add meaning to life." Items were rated on a 5-point dimension on which 1 = *disagree a lot*, 3 = *no opinion*, and 5 = *agree a lot*.

Rural lifestyle—The Rural Lifestyle scale is a five-item scale developed from the item set that includes those for the Family Traditionalism scale. In the present community sample of women, this scale exhibited a scale reliability coefficient of $\alpha = .79$. A representative item is, "The quality of life is better in a rural community, where a person can feel safe." These items also were rated on the 5-point dimension noted earlier.

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[3]As this first question on generalized cultural traditionalism was most affected by eliciting attributions that were perhaps not entirely reflective of the participants' own views, we eliminated responses to our first question from the present study.

Acculturation—The acculturation scale used was the General Acculturation Index (Castro, Cota, & Vega, 1999), a five-item scale condensed and modified from the original unidimensional Acculturation Rating Scale for Mexican Americans (Cuellar, Harris & Jasso, 1980). This index succinctly measures levels of Spanish-language and English-language skills (a) in speaking and (b) in reading; (c) early childhood experiences within Mexico or another Latin American country and within the United States; (d) one's current circle of friends, whether Hispanic or White American; and (e) level of pride in one's culture. For the present sample, this scale exhibited excellent internal consistency, $\alpha = .91$.

Folk beliefs—The Folk Beliefs scale is a five-item scale originally contained within the Inventory of Health-Related Beliefs (Castro, Furth & Karlo, 1984), developed to study the health beliefs of Mexican and Mexican American women. A representative item is, "When a certain person stares at a baby, that baby can develop an illness called *mal de ojo*." Each item is answered on a 4-point dimension of belief strength: 1 = *no (I don't believe it)*, 2 = *perhaps not*, 3 = *perhaps yes*, and 4 = *yes (I do believe it)*. For the present sample, this scale exhibited good internal consistency, $\alpha = .79$.

Outcome Measures

Pregnancy self-care beliefs—The Pregnancy Self-Care Beliefs scale is a four-item scale drawn from the item set that includes those for the Folk Beliefs scale. The Pregnancy Self-Care Beliefs scale examines adverse consequences during pregnancy attributable to self-care and to the use of alcohol, cigarettes, or illicit drugs. The four items for this outcome measure are as follows: "Drinking alcohol during pregnancy can cause a woman's baby to have a birth defect or an unhealthy birth," "The way a woman takes care of herself during pregnancy has a strong effect on her baby's health at birth," "Smoking cigarettes while pregnant can cause a woman's baby to have birth complications or an unhealthy birth," and "If a woman uses drugs like cocaine or heroin during pregnancy, this could cause her baby to have a birth defect or an unhealthy birth." Each item is answered on a 4-point dimension of strength of belief endorsement: 1 = *no (I don't believe it)*, 2 = *perhaps not*, 3 = *perhaps yes*, and 4 = *yes (I do believe it)*. For the present sample, this scale exhibited adequate internal consistency, $\alpha = .64$. Under this 4-point dimension and for the present sample, the Pregnancy Self-Care Beliefs scale had a scale minimum of 1.75 and a maximum of 4.00. However, given its remarkable skew (skewness = −2.71), we recoded this scale dichotomously with the range of 3.50–4.00 coded as 1 (*stronger belief*) and the range of 1.00–3.49 coded as 0 (*weaker belief*).

Alcohol abstinence—For these perinatal mothers, a composite index for alcohol use behavior was computed from three alcohol use items: 1 = *lifetime use*, 2 = *use during the past year*, and 3 = *use during their recent pregnancy*. For each item, the anchor points for levels of alcohol use were as follows: 1 = for lifetime use (range = 1 [never consumed alcohol] to 6 [consumed over 10 alcoholic drinks per week for over a year]), 2 = for past year use, the number of alcoholic drinks consumed per week during the past year (range = 1 [none at all] to 5 [8 or more drinks per week]), and 3 = use during pregnancy (range = 1 [none at all] to 5 [over 40, one per week or more]). Cronbach's alpha coefficient for this risk index was excellent, $\alpha = .82$. This scale exhibited some skewness (0.87), where 46 of these 77 women (59.7%) reported complete abstinence from alcohol at any time in their life, while the others reported low to moderate levels of alcohol use. On the basis of this distribution, we recoded this index dichotomously for alcohol use across three situations, and as such, alcohol abstinence was coded as 1 (*total abstinence*) and nonabstinence was coded as 0 (*not abstinent, some alcohol consumption*).

Translation and Transcription

For each open-ended question, the original written text was transferred from the survey forms into a text file. Responses from the Spanish-speaking participants were translated to English. Then the translated Spanish-language version was back-translated. Inconsistencies in the two versions were then reviewed and reconciled by a committee of three bilingual–bicultural reviewers (Gonzalez, Stewart, Ritter, & Lorig, 1995). For all cases, the thematic analysis of text was conducted in English.

Qualitative Text Analysis

First, we used the software program TextSmart (SPSS, 1997) to conduct the qualitative text analyses, using a four-step methodology that generated the qualitative thematic categories. Then as a fifth step, axial coding was used to add levels of emphasis to each category, thus creating the thematic variables used in the logistic regression analyses. The first of four steps from this five-step procedure are (a) identifying excluded words, (b) creating aliases, (c) generating automatic categories, and (d) iterative analyses to attain an optimal solution. First, a set of excluded terms was established to eliminate words that occur at high frequencies but lack substantive meaning, such as the articles "a," "an," "the," and so forth. Second, words having similar meaning, or "aliases," were identified (e.g., town, small city). Third, an initial set of categories was generated using the program's autocategorization feature.[4] As each participant (case) responded to a given question with one or more sentences (response[s]), the unit of analysis was the case/response of text narrative. Fourth, iterative analyses were conducted as guided by two criteria. Criterion 1, full content,[5] has the aim of maximizing the number of cases categorized into a thematic category to account for the largest proportion of information/thematic variance captured from across all cases. Conceptually, this involves systematically identifying the themes having the greatest cultural consensus as expressed independently by the largest number of cases. Criterion 2, uniqueness, was aimed at generating categories having the highest percentage of unique responses (i.e., cases/responses representing only a single category). Some responses can contain two or more thematic ideas (e.g., "urban life is *stressful* yet also offers *opportunities*"). Thus, this particular response may be categorized as belonging to two thematic categories (e.g., "cities as stressful" and "cities as having opportunities"). Moreover, unique responses are useful as anchor responses, which aid in naming a new

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[4]The text analysis to identify thematic categories proceeded in five steps:

Step 1: Excluding irrelevant terms (i.e., those with nonsubstantive meaning) such as articles (*a*, *an*, *the*) that typically occur at high frequency but offer no substantive meaning to the analysis.

Step 2: Creating aliases (words that share similar meaning, e.g., *hot*, *sizzling*, and *scalding* all mean *very hot*).

Step 3: Generating automatic categories. In TextSmart, thematic categories are generated through three methods: frequency of response, co-occurrence, or both. Frequency of response iteratively creates categories from the highest frequency of mention. The co-occurrence approach examines the rate of co-occurrence between two words across responses using the Jaccard similarities index. Frequency of response and co-occurrence were used in the present study.

Step 4: Iterative analysis toward an optimal solution. One aim was to generate complex categories, consisting of two or more words connected by *or* (["listens" *or* "elders"] in, e.g., "a traditional person 'listens to her elders'"; SPSS, Inc., 1997).

Step 5: Axial (dimensional) coding. The final step in creating thematic variables is axial (dimensional) coding Strauss and Corbin (1990). Axial coding has two aims: (a) to apply levels or degree of intensity or emphasis to the identified category and (b) to conduct a validity check on any cases erroneously assigned under a given category. The anchor points used to generate intensity for any given category are as follows: 0 = *not mentioned or not relevant, or a computer miscode*, 1 = *tangential reference*, 2 = *clear reference*, and 3 = *emphatic reference*. (Further details about this methodology are available from Felipe Gonzalez Castro).

[5]Two empirically derived heuristic criteria for conducting these analyses are the following: Criterion 1: full content (thematic categories are generated that maximize the number of cases/responses categorized) and Criterion 2: uniqueness (each category yields the highest percentage of unique terms, meaning that the maximum number of cases are incorporated within a single category [unique of single theme cases]).

category in a manner similar to that for the highest loading items observed within a conventional factor analysis.

As a fifth step for each thematic category, axial coding (Strauss & Corbin, 1990) was then used. On the basis of the identified meaning of a category (e.g., family unity, "the family should be united in doing things together"), axial coding introduced levels of expressive emphasis as stated by the respondent. For this axial coding, three undergraduate students independently rated the degree of emphasis expressed for each text narrative response. Prior work with this approach to axial coding served as the basis for the use of a 4-point axial coding format (Denne, Castro, & Harris, 2001). The anchor points for this dimension of affective emphasis were as follows: 0 = *not present* (also a correction for computer miscategorization), 1 = *a tangential reference*, 2 = *a clear solid reference*, and 3 = *an emphatic reference*. For each thematic category, these 4 anchor points were operationalized by a specific statement from that category that best exemplified that specific level of emphasis. For example, for the family unity category, the statement descriptive of emphatic reference (3) was, "The family should be united. Husband, wife, and children should all agree to be united on all matters related to the family." We then reviewed initial axial code ratings in a roundtable committee discussion to reconcile conflicting ratings and to reach consensus on the most accurate code for each narrative response.

Results

Participant Characteristics

Table 1 presents the background characteristics of the 77 participating women from whom we obtained qualitative responses. These women ranged in age from 17 to 50, with a mean age of 28.41 years. Also, these women represented the entire range of the acculturation continuum (a minimum of 1.00 and a maximum of 5.00), with a group mean of 2.38 as measured on the 5-point General Acculturation Index (see Table 1). Also, their educational status (total years of school in the United States and/or Mexico) ranged from no education to 16 years, with most having 10 to 12 years of education (42.7%). Also, half of the participants spoke Spanish better than English (54.6%). Regarding their ethnicity, most identified as being Latina/Hispanic (79.2%), with most specifically identifying as Mexican or Mexican American. Also, most were married (61.0%), and most reported being in good or excellent health (61.1%).

We have observed that, along the U.S.–Mexico border, many residents often develop a "borderlander identity" (Martinez, 1994). Some of these persons may self-identify ethnically as Anglo (non-Hispanic White) or of mixed background, on the basis of parental heritage. Nonetheless, they may speak Spanish and have several close friendships who are Mexicans, so that these borderland "Anglos" may also identify with the Mexican culture and lifeways. Accordingly, we have included into this sample 8 women who self-identified as Anglos (White Americans), along with 7 who identified as being of mixed background, and 1 who identified as being Native American Indian. Not surprisingly and as noted, given their life experiences near the U.S.–Mexico border, even as ethnic Anglo Americans, many of these borderland participants exhibited some cultural involvement, or *enculturation*, toward Mexican cultural lifeways.

Quantitative Variables: Scale Interrelationships

Table 2 presents correlations for each of the four scaled variables and the two outcome measures: pregnancy self-care beliefs and alcohol abstinence. Level of acculturation was inversely correlated with each of the other cultural variables. This inverse relationship for

acculturation was significant with family traditionalism and folk beliefs. Several positive associations were also observed among these cultural variables (see Table 2).

Qualitative Analysis: Inductively Generated Thematic Variables

Table 3 presents the results of two separate analyses of participants' responses to the open-ended questions about traditionalism.

Family traditionalism—The thematic text analysis for the open-ended question on family traditions yielded a six-category solution for which 59 of the 77 responses (77%) were encoded into six categories. The six thematic categories about traditional family systems presented in order of percentage of total cases/responses categorized were as follows: F1 (macho privilege [27%]), F2 (family trust and respect [22%]), F3 (family unity [19%]), F4 (values traditions [16%]), F5 (adheres to customs [16%]), and F6 (resists change [11%]).

Rural versus urban lifestyle and preferences—Table 3 also presents the analysis of responses to the open-ended question on rural and urban lifestyles. This solution yielded five categories, under which 65 of the 77 total cases/responses (84%) to this question were categorized: R1 (small-town life is better [53%]), R2 (big-city opportunities [50%]), R3 (rural tranquility [55%]), R4 (it depends [25%]), and R5 (traditions are easier to follow in small towns [12%]).

Qualitative Analyses: Correlations Among the Thematic Variables

Table 4 presents the matrix of correlations among the set of 11 thematic variables. Among 55 correlations, 15 were significant at $p < .05$ or less, which is well above the expected three correlations that would occur solely from chance probability. This analysis presents a cultural schema of personal and normative beliefs about traditionalism (family traditionalism and rural lifestyle) as viewed by young adult female residents from these border communities. The strongest correlations were manifest in two content areas as described below.

Family loyalty and involvement—Regarding family relations, a stronger belief in family unity (F3) was positively associated with a stronger belief that small-town life is better (R1) and in rural tranquility (R3). Also, a stronger belief in family trust and respect (F2) was positively associated across domains with a stronger belief that life is better in the big city (R2, big city opportunities) and a stronger belief that rural life is less stressful (R3, rural tranquility). Family trust and respect (F2) was also negatively correlated with the belief that one should follow customs from one's native country (F5, adheres to customs). Values traditions (F4) was associated with a stronger belief that one should adhere strictly to parental teachings (F5, adheres to customs; and F6, resists change). Also, F5 (adheres to customs) was associated positively with a stronger belief that one should adhere strictly to parental teachings (F6, resists change),

Also, a notable thematic variable is macho privilege (F1), the belief that a wife and children must obey a macho male's commands. Macho privilege was associated negatively with each of four of the other categories within the family traditionalism domain (see Table 4). Thus, a greater endorsement of macho privilege was associated with a weaker belief in family unity (F3), values traditions (F4), adheres to customs (F5), and resists change (F6). By contrast, macho privilege was uncorrelated with family trust and respect (F2), which emphasizes the importance of respect within the family (see Table 3). Also, family trust and respect (F2) was negatively associated with the belief that one should follow the customs from one's native country (F5, adheres to customs). These results generally suggest that stronger beliefs regarding machismo (in which the husband is allowed to be demanding and authoritarian)

are antithetical to family environments that include various positive aspects of traditional family lifeways.

Rural–urban contrasts—A stronger belief that small towns offer a sense of community (R1, small-town life is better) was associated with a stronger belief that rural life is less stressful (R3, rural tranquility). By contrast, a stronger belief that urban life is better because of its opportunities (R2, big-city opportunities) was associated with a greater belief that city life has both advantages and disadvantages (R4, it depends), a view depicting more complex and less absolute ways of thinking. Also the belief that small-town life is more tranquil (R3, rural tranquility) was negatively associated with the belief that traditions are easier to follow in small towns (R5). In general, these associations highlight contrasting perspectives between rural and urban life: the sense of community and slower pace associated with rural life as contrasted with the greater opportunities but also the greater stressfulness and complexity of urban life.

Cross-Method Analysis: Correlations Between Scaled and Thematic Variables

Table 5 presents correlations observed across the quantitative–qualitative methods; that is, between the four cultural scales and the 11 thematic variables. Greater acculturation was associated with a weaker belief that the family should do things together (F3, family unity). Thus, family bonding and unity appear to diminish with greater levels of acculturation. Similarly, a stronger belief in family traditionalism was associated with a stronger belief that small-town life is better (R1). Finally, a higher level of rural lifestyle was associated with a stronger belief that traditions are easier to follow in small towns (R5). Themes that traditions are more salient and important within rural communities, as well as an appreciation of certain aspects of rural life, are reflected in the interrelationships observed among these variables.

Effects of Attributional Source

Emerging issues—Given the structure of the open-ended questions that introduced the idyllic woman, Maria, this approach raised an issue regarding the attributable source of responses from each participant. In other words, a participant's response could reflect one of three attributional sources: (a) her own personal views about traditions (a *self-referent* response), (b) another person's or Maria's views about traditions (*other-referent* response), or (c) one that is indeterminate regarding the source of the response (an *indeterminate* response). Thus, the need arose to investigate any potential bias introduced by the attributable source of response (self, other, or indeterminate) in the association of each thematic variable with the two outcome variables: pregnancy self-care beliefs, and alcohol abstinence.

Coding the attributable source—Accordingly, for each of the 77 responses within the family traditionalism domain, and for each of those within the rural lifestyles domain, we encoded the attributable source of response. Responses involving a clear personal reference were encoded as self-referent responses, whereas those referring to Maria or to another person were encoded as other-referent responses, and those having no clearly attributable source were encoded as indeterminate. For example, within the family traditionalism domain, a self-referent response was, "I believe that a woman should take care of her family's needs, such as cleaning, cooking, and taking care of the children." Similarly, for the rural lifestyles domain, a self-referent response was, "I like living in a small town, although I would rather live in a big city." Similarly, other-referent attributional responses for these two respective domains were, "Maria does not believe in changing her ways. Everything that her parents believe, so does she," and "Maria believes that the smaller the town, the better because you can get lost or lose your identity in a big city." For the indeterminate responses,

representative responses within the family traditionalism and the rural lifestyles domains were, "The man rules within the family and is independent until married," and "The rural environment is less stressful." These responses are not clearly attributable to the participant's own views, not to those of another specific person.

On the basis of these ratings, we computed three effect vectors that encoded the presence of one of these attributional effects, coding 1 as *present* and 0 as *absent*. Thus, these variables encoded three attributional response conditions—self, other, and indeterminate—for which we could examine conditional changes in the association of each thematic variable with each of two outcome variables: pregnancy self-control and alcohol abstinence. The distribution of responses for each of these attributional categories observed within the family traditionalism domain were as follows: self, 19 responses (24.6%); other, 21 responses (27.3%); and indeterminate, 37 responses (48.1%). Similarly, within the rural lifestyles domain, these responses were as follows: self, 45 responses (58.4%); other, 12 (15.6%); and indeterminate, 20 responses (26.0%).

Analysis of semipartial correlation coefficients—In this analysis, we first examined the initial zero-order correlation of a thematic variable (e.g., macho privilege) with an outcome variable (e.g., pregnancy self-care beliefs). We then examined the attenuation of this initial association after partialing out the effect of each attributional source. In other words, for each thematic variable, we examined any reduction in the predictor–outcome association as the result of partialing out the effect of a given attributional source. For this, we computed the semipartial correlation coefficient for each thematic variable and the outcome variable (e.g., pregnancy self-care beliefs) as a measure of this adjusted association as influenced by a specific source of attribution. The semipartial correlation shows the association of a thematic variable (a within-time predictor) with an outcome variable after the effects of the attributional source are eliminated from the thematic variable (Cohen, Cohen, West, & Aiken, 2003).[6] Table 6 presents the semipartial correlation coefficients for all 11 thematic variables across the three sources of attribution and for each of the two dependent variables: pregnancy self-care beliefs and alcohol abstinence. A significant attenuation in the magnitude of the zero-order correlation after controlling for a given attributional source would reveal the effects of that attributional source as a potential confounder of the predictor–outcome association.

Invariance across conditions—Table 6 presents the six family traditionalism thematic variables and the five rural lifestyle thematic variables as associated with pregnancy self-care beliefs and with alcohol abstinence. Under each of these domains, the first column presents the zero-order correlation (*r*), followed by the semipartial correlation coefficient (*sr*) for each of the three sources of attributional effect: self-referent, other referent, and indeterminate. For each outcome variable, any remarkable attenuation in the semipartial correlation coefficient relative to the zero-order correlation would indicate a significant effect for that attributional source. For all entries in this table, there is little or no attenuation in semipartial correlation values, indicating invariance in effect across conditions. That is, each attributional source exhibited little or no effect on the association between each thematic variable and the two outcome variables.

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[6]The semipartial correlation coefficient $sr_{Y(2.1)}$ eliminates the effects of x_1 = attributional source from x_2 = the thematic variable, solely from the thematic variable and not from the dependent variable *Y*. This parameter was used to statistically eliminate the effects of each attributional source to examine the magnitude and direction of potential bias introduced by these differing types of sources of attributions: self, other, and indeterminate. The partial correlation coefficient $pr_{Y(2.1)}$ could also have been examined as well, as it partials out the effects of the attributional source from both the thematic variable and the dependent variable. In these analyses, the differences in values of the *sr* and the *pr* were very small. The aim of partialing out the effects of the attributional source solely from the thematic variable was more relevant to these analyses of the effect under consideration, so we examined the semipartial correlation coefficient.

Here, for the pregnancy self-care beliefs domain, the effect of family trust and respect (F2) and adheres to customs (F5) were initially significant and remained significant or near significant as within-time predictors of pregnancy self-care beliefs across the various attributional conditions. Some minor shifts were observed for three of the rural lifestyle thematic variables, in which marginally significant effects attained significance, albeit with little change in the actual magnitude and direction of the association. Moreover, for the outcome variable of alcohol abstinence, no remarkable shifts in values were observed for all associations examined after controlling for the effects of attributional source. These results suggest that the influence of each source of attributional effect was minimal and would not serve as a significant sources of bias or distortion in the planned logistic regression analyses. In summary, all thematic variables exhibited relative invariance across conditions, wherein none of these attributional sources exhibited significant or systematic effects that would bias or otherwise distort the association between each thematic variable and the two outcome variables.

Logistic Regression Analyses

Overview—We conducted two sets of logistic regression analyses to examine the predictors of pregnancy self-care beliefs, (i.e., the strength of belief in the benefits of self-care and the adverse consequences of alcohol, tobacco, and hard drug use during pregnancy as sources of birth complications) and of alcohol abstinence (i.e., a total abstinence from alcohol use as distinguished from some amount of alcohol consumption in the past). These analyses also examined whether and how the qualitative thematic variables may contribute to the within-time prediction of these outcomes beyond the effects of the conventional scaled cultural variables. Such results would offer additional explanatory information that would have been otherwise missed if we had only incorporated the original scaled variables into the regression models.

Each logistic regression analysis was conducted as a two-step process. In Step 1, the three cultural variables (acculturation, family traditionalism, and rural lifestyle) were entered blockwise as potential within-time predictors in the logistic model. Then in Step 2, the thematic variables were allowed entry into the regression model using the likelihood ratio criterion for the systematic entry of variables having the largest significant association with the outcome variable on the basis of the Lagrange Multiplier (the Score) Test (Cohen et al., 2003). Although a stepwise entry approach is not often ideal, within the present context and given our prior data screenings, this approach was used for identifying the best combination of predictors from among these thematic variables after controlling for the effects of the scaled cultural variables.

Despite the statistical evidence supporting the invariance of response across the self-referent, other-referent, and indeterminate response types, interpretive ambiguity may occur when including cases into a predictive model in which respondents give other-referent responses. Accordingly, we conducted two sets of logistic regression analyses: (a) Models 1a and 1b, for an n of 77 that included all cases; and (b) Models 2a and 2b, for a subsample of 50 cases of women who only gave self-referent or indeterminate responses to each of the two focus questions (i.e., excluding cases having one or two other-referent responses). For the revised sample models, we recognize that these models are limited by the low ratio of cases to the number of model parameters. Also, an analysis of the background characteristics of the excluded cases ($n = 27$), as compared with the included cases ($n = 50$), revealed no between-groups differences by age, level of acculturation, language spoken, ethnic identification, and reported health status. One difference was observed in marital status, wherein the excluded cases were more likely to be previously unmarried.

Predictors of pregnancy self-care beliefs—Table 7 presents the results for two sets of logistic regression analyses. As shown in Table 7, the subsample model analyses generally replicate the results for the total sample models, except for the effects of the F5 (adheres to customs) thematic variable, which was significant in the total sample pregnancy self-care beliefs model (Model 1a), but not in the subsample pregnancy self-care beliefs model (Model 2a). For simplicity of interpretation and to avoid the possible effects of aggregating the effects of other-source attributions, here we interpret only the results of the subsample models (i.e., Models 2a and 2b).

In the first analysis, within Step 1, the three scaled cultural variables (acculturation, family traditionalism, and rural lifestyle) were entered as a block. In accord with the total sample model, these three scale variables were not significant; also, family traditionalism exhibited a greatly inflated 95% confidence interval ([CI] .400, 1,222.462) on the basis of its multicollinearity with other variables, thus requiring its elimination from this model. Thus, in the trimmed model, acculturation and rural lifestyle were entered blockwise and, as expected, were not significant, $\Delta\chi^2(2, N = 50) = 0.136$, $p = .934$. For Step 2, family trust and respect (R2) also exhibited inflated 95% CIs and was eliminated from this model. Thus, the set of 10 remaining thematic variables was allowed to enter stepwise using the likelihood ratio criterion. From this analysis, big-city opportunities (R2) attained entry into the final model. A weaker belief that life is better in the big city (R2, big-city opportunities), Wald χ^2 = 5.66, $p < .05$; odds ratio (OR) = .33; CI = .13, .82, was associated with stronger pregnancy self-care beliefs.

Then, to recontextualize these results (see Figure 1) for a deeper understanding of meaning drawn from big-city opportunities, we examined the text narratives that best define this thematic variable. Thus, the beliefs associated with big-city opportunities are as follows: "It is better to live in a big city because there are more jobs and educational opportunities;" "It is better to live in the city because there are more jobs, hospitals, schools, and there is more communication with other people;" and "Big cities offer more activities but also more chances for violence." Stronger pregnancy self-care beliefs were associated with weaker beliefs that cities offer better and more diverse living conditions. This suggests that women who recognize the importance of self-care and drug avoidance during pregnancy also do not endorse modernistic, urbanized lifestyles. Conversely, women having stronger modernistic beliefs and a positive regard for city life appear to be more likely to use alcohol or other drugs in some quantity and, perhaps, during pregnancy.

Alcohol abstinence—The same logistic regression methodology was used to examine within-time predictors of alcohol abstinence. Thus, in Step 1, the same three cultural variables (acculturation, family traditionalism, and rural lifestyle) were entered as a block, where here also none of these variables made a significant contribution to the model, $\Delta\chi^2(3)$ = 0.51, *ns*. Then the strongest predictors of alcohol abstinence from among the 11 thematic variables were examined for entry. During Step 2, the thematic variable R5 (traditions are easier to follow in a small town) exhibited a remarkably large confidence interval, indicating its instability as a predictor in this model. This thematic variable is also the weakest of the rural lifestyle thematic variables, accounting for only 12% of the responses/cases. Thus, we eliminated this thematic variable from the set of thematic variables considered in this analysis. In a forward stepwise entry of the remaining 10 thematic variables, again using the likelihood ratio criterion, rural tranquility (R3) was identified as the sole significant within-time predictor of alcohol abstinence, Wald $\chi^2(1) = 4.40$, $p < .05$; OR = 0.49; CI = .25, .95. Here in a recontextualization of the meaning of rural tranquility, its unique responses were, "I think that small-town life is better because there is less stress, racism, and crimes," and "I agree that life in a small town is better because in a small town, life is peaceful, there is less gang activity, and overall life is more peaceful." These responses indicate a greater

likelihood of abstinence from alcohol, as observed among these rural women who expressed some disagreement that rural life is less stressful. Thus, rural women who abstained entirely from alcohol did not believe in idyllic, and perhaps stereotypical, conceptions regarding the serenity of rural life.

Discussion

Methodological Comment

The present study examined various aspects of traditionalism from the insider perspectives of rural women, mostly Mexicans and Mexican Americans, who reside in two rural Arizona border towns. This study also illustrates a methodology for conducting an integrative mixed-methods study. We developed the approach used here using the software package TextSmart (SPSS, 1997), although this approach is not specific to a particular software package; other software packages for qualitative text analyses (e.g., AtlasTI; Muhr, 2004) can be used to conduct similar mixed-methods analyses.

The present mixed-methods approach examined cross-method correlations and an analysis of the within-time predictive effects of scaled variables and thematic variables, when examined in two sets of logistic regression analyses. This study illustrates the viability of using an integrative mixed-methods approach to obtain a greater depth of understanding of multiple elements of a complex cultural construct, such as traditionalism, when examined using logistic regression models (Haverkamp, Morrow, & Ponterotto, 2005). This study also shows the viability of using thematic variables generated inductively from open-ended focused questions within regression models for added explanatory power.

Some Unexpected Results

The complete lack of predictive strength for each of the scaled cultural variables (acculturation, family traditionalism, and rural lifestyle) was surprising. A positive association was hypothesized between traditionalism (i.e., Family Traditionalism scale and/ or Rural Lifestyle scale) with pregnancy self-care beliefs and with alcohol abstinence. Also, a negative association would be expected for level of acculturation with pregnancy self-care beliefs and with alcohol abstinence. The absence of such associations may indicate, as one possibility, that these scaled measures did not capture important aspects of traditionalism or acculturation as related to self-care beliefs or alcohol use. In addition, our findings that certain thematic variables exerted significant effects beyond those of the measured cultural variables suggest two possibilities. First, strong beliefs and behaviors involving the active avoidance of substance use may be related to aspects of traditionalism that were not captured by the Acculturation, Family Traditionalism, and Rural Lifestyle cultural scales. Second, the presence of predictive variance that was detected by certain thematic variables suggests that these variables did capture certain aspects of traditional rural lifeways, despite being generated inductively as thematic variables, from verbal text narratives. Despite null results from the scaled variables regarding Hypotheses 1 and 2, by contrast, other results derived from the thematic variables offered some support for each of these two hypotheses.

Revealing Associations Among the Cultural Variables

First, the correlational analysis revealed that, for these rural borderland women, acculturation is inversely associated with various aspects of familial and rural traditionalism. As Mexican women and other minority persons acculturate into the modernistic American mainstream culture, they appear to lose some of their traditional lifeways (Vega, Alderete, Kolody, & Aguilar-Gaxiola, 2003), although by developing a bicultural identity (La Fromboise, Coleman, & Gerton, 1993) they need not necessarily do so. The present study also revealed several interrelated aspects for the construct of traditionalism. Traditionalism

generally involves adherence to conservative, old-culture ways that include strong family bonding and unity and an appreciation for a rural lifestyle. Strong family loyalty is also associated with valuing family unity, cultural traditions, and adhering to these while resisting changes in them. By contrast, beliefs regarding the influences of machismo as domineering and oppressive male behavior were observed as antithetical to healthy traditional family environments that feature harmonious family relations. In this regard, a strong father is not necessarily a macho father. Furthermore, contemporary Latina and Latino scholars have described positive aspects of machismo, aspects consistent with being a strong and devoted husband and father (Casas, Wegerheim, Barnchero, & Mendoza-Romero, 1994; Torres, 1998).

Regression Model Analyses

The analysis of within-time predictors of pregnancy self-care beliefs revealed that stronger beliefs in self-care during pregnancy were associated with weaker beliefs that life is better in the big city (R2, big-city opportunities). This result suggests that an aspect of traditionalism that questions the benefits of urban life in favor of small-town living is consistent with maternal behavior oriented toward healthy self-care during pregnancy aimed at having a healthy baby. The result that abstinence from alcohol is associated with less acceptance of an idyllic view of rural life as tranquil and relatively stressfree suggests that Mexican-heritage young adult women who abstain from alcohol use have engendered a more critical appraisal of rural life. Conversely, those women who consume alcohol appeared to be more accepting of this idyllic perception of rural life.

A common thread in these perspectives is that rural Mexican-heritage young adult women who avoid unhealthy behaviors, including alcohol use, endorse certain traditional lifeways, albeit with critical appraisals of these traditions that are devoid of idyllic, and perhaps stereotypical, perceptions. An orientation to motherhood that values self-care and the avoidance of alcohol and other unhealthy behaviors may involve an appreciation of traditions but with more complex and realistic conceptions of these traditions. Future research that further examines this more nuanced approach toward self-care and motherhood could help elucidate protective mechanisms relevant to the Hispanic paradox. In response to the question, "Is greater traditionalism associated with greater self-protective beliefs in pregnancy and with greater abstinence from alcohol use?" the evidence drawn from these qualitative thematic variables suggests that an appreciation of traditions coupled with probing and critical views of idyllic rural and urban lifestyles is associated with healthier self-care behaviors.

Critical Consumers of Culture and Tradition

By contrast, extremism involving an uncritical acceptance of certain cultural traditions may be maladaptive, as when women adhere strictly and without question to ultratraditional gender role beliefs and behaviors, as observed in old-style marianismo. Moreover, modernistic Mexican-heritage women who prefer an urban lifestyle may question the absolute causal association between substance use during pregnancy and poor birth outcomes, taking a more permissive attitude toward the use of alcohol and other drugs during pregnancy. These results are consistent with the evidence for many Mexican and Mexican American women that greater levels of acculturation and/or modernization are associated with more liberal and permissive attitudes toward the use of alcohol and other drugs (Vega et al., 2003). This does not necessarily mean that alcohol-consuming women endorse substance abuse. It does suggest within their more modernized gender-related cognitive self-schema, that alcohol use does not violate a personal norm; thus, they are willing to use alcohol and perhaps other substances in small to moderate amounts.

Distinguishing Paradox From Contradiction

In addressing the challenges of paradox and contradiction, Cuadrado and Lieberman (1998) as well as other scholars have described, "*las nuevas marianistas*," (the new marianistas), Latinas who are critical consumers of culture and tradition, who can successfully reconcile competing demands and apparent contradictions (paradoxes) imposed by traditional and modernistic imperatives by thoughtfully choosing adaptive aspects of traditions while rejecting the maladaptive ones. This integrative cultural perspective involving a type of cultural flex may allow a resolution of "the Maria Paradox," through a capacity to "merge old world traditions with new world self-esteem," (Gil & Vazquez, 1996).

Moreover, the thematic variable of machismo was not significantly associated with either of the outcome variables. It was nonetheless noteworthy that many of our participants commented on the detrimental influences of negative *machismo* on the family, criticizing the abusive behaviors of macho men, as well as the submissiveness of very traditional women, as indicated by one response that, "The husband is the one who gives 'orders.' The wife never says what she feels and the children should 'obey' no matter what" (see Table 3). Latinas and those who are *"nuevas marianistas*," may be more assertive in questioning ultratraditional norms, especially restrictive gender norms, by questioning macho privilege and related norms that strictly prohibit alcohol use among women.

Limitations and Future Directions

The strategy of prompting beliefs about traditional thought and behavior from rural women using an idyllic traditional stimulus person, Maria, aided in generating insider views regarding the concept of traditionalism. However, although this approach elicited the person's own personal beliefs about traditionalism, it also elicited some participants' attributions about the behavior of another person (Maria); that is, normative beliefs. Thus, some of the associations observed in this study reflected the participant's own beliefs, although other assertions reflected attributions about the behaviors of other women, including the idyllic figure, Maria. On the basis of our analysis of attributional sources, we observed that our results were relatively invariant across attributional sources, thus showing that attributional source was not a significant factor that affected the association between the thematic variables and the outcome variables. Nonetheless, this issue underscores the importance of carefully framing the focus question that is used to elicit open-ended responses. Future studies should structure focus questions to clearly separate these two types of attributional effects.

Another potential limitation of the present study involves limits to the construct validity and generalizability of these thematic variables. Regarding their construct validity, their true measurement of the construct that they describe was not established, as contrasted with established measured variables (scales) that have been previously tested for their construct validity in prior studies. By contrast, these thematic variables may reflect a valid measure of their construct based on their more direct derivation from specific responses provided by several study participants.

Similarly, the stability and generalizability of the present set of thematic variables are yet to be determined. If these same open-ended questions were presented to demographically similar women from other border communities of the Southwest (e.g., Mexican communities in Texas), would a similar set of thematic variables be generated and with similar predictive effects? If borderland communities share a relatively common "Mexican culture," then a similar profile of thematic variables with similar predictive effects would be expected as generated from other Mexican communities in response to the same questions about traditionalism. Future studies could examine this proposition and the related reproducibility

and stability of these thematic variables. The generalizability of the present results would also be limited to a demographically similar group of women, and this would not be verifiable until similar studies are conducted in the future.

Conclusions

Complexities of traditionalism—Among rural borderland young adult women, are certain traditional beliefs protective, as suggested by the Hispanic paradox? Our evidence suggests a scenario that is more complex than depicted in our original simplified hypotheses. First, our conventional (scaled) measures of acculturation and traditionalism exhibited no effects as either risk or a protective factors. Among the thematic variables, weaker beliefs regarding big-city opportunities was associated with stronger pregnancy self-care beliefs regarding the importance of avoiding alcohol and drugs during pregnancy. These results illustrate that a greater depth and nuance in cultural analysis can be attained by qualitatively generated thematic variables that can uncover greater complexity regarding the characteristics and influences of specific cultural constructs. From these thematic variables, Hypothesis 1, that greater traditionalism would be related to self-protective beliefs during pregnancy, was supported in part. Also, Hypothesis 2, that greater traditionalism would be associated with a greater likelihood of abstinence from alcohol, was also supported in part.

Adaptiveness of a critical appraisal of cultural traditions—Whereas some practices may be called traditions because they originated in the distant past, there is no reason to suspect that all such beliefs and practices are adaptive. The most important family building traditions may be centuries old and likely found in tribal populations or in rural areas where these traditions have remained relatively less disturbed by the disruptive social effects of modernization (Coe, 2003). In this regard, certain aspects of traditionalism that once were adaptive and important in keeping families united and strong may now be maladaptive within the context of contemporary modernized American society. For example, the extreme traditional male gender role schema of machismo may have been adaptive in the past, placing men in a central role of aggressively protecting their wives, children, and even their extended family. However, this male posture may be maladaptive today within modern societies, as it may promote rather than prevent family fragmentation and alcohol abuse. Similar issues may apply regarding the old-style gender role schema of marianismo. The present study suggests the likely maladaptive effects of an uncritical acceptance of ultratraditional and/or ultramodernistic orientations, with greater adaptiveness suggested for a cultural perspective that emphasizes the avoidance of stereotypical, idyllic, or simplistic "either–or" thinking in favor of a critical appraisal of the beneficial and detrimental aspects of various traditional and modernistic lifeways (Cuadrado & Lieberman, 1998).

Future studies—As these rural young adult women exhibited low overall levels of lifetime alcohol use in the past year and during their pregnancy, the present study was limited by a restricted range in observed levels of alcohol use. It is noteworthy that the abstinence rate observed among these mostly Mexican-heritage borderland women of 59.7% is similar to the 66% abstinence rate reported for urban women in Mexico (Slone et al., in press). Future studies could incorporate a stratified sample by levels of alcohol use to permit more extensive model analyses that test the associations of acculturation, traditionalism, rurality, and other cultural variables in relation to increasing levels of alcohol use, alcohol abuse, and alcohol dependence. Future research may also clarify the effects noted in the present study to distinguish further the beneficial from the detrimental aspects of specific traditional beliefs and behaviors. Further progress in understanding the complex patterns of multicausality and reciprocity of influences of traditionalism will require research approaches that clarify the complex interplay of its various sources of influence (Bussey &

Bandura, 1999). The present study introduces a mixed-methods approach that may aid in the conduct of such nuanced studies.

Our findings that these women from rural borderland communities exhibited low levels of alcohol use also suggest that, as a community, these mostly Mexican American women have lifestyles that place them at low risk for alcohol abuse and dependence. This implicates the presence of naturally occurring protective factors against alcohol abuse among women from traditional rural small-town communities, although ironically, these same environments and traditional cultural norms appear to place Mexican and Mexican American men at high risk for alcohol-related problems (Slone et al., in press). This differential pattern by gender implicates the influences of gender norms imposed by the old-style ultratraditional concepts of marianismo and machismo.

The present study examined local cultural traditions from primarily Mexican-heritage communities located near the U.S.–Mexican border. It would be interesting to examine how these responses may differ when studied within other traditional communities located in other parts of the United States, and studies that would conduct direct contrasts of the beliefs and behaviors of Hispanic men and women. From a methodological perspective, future mixed-methods research should examine complex cultural constructs and their interrelationships within universal and culturally specific contexts (Norenzayan & Heine, 2005)—for example, to clarify the distinction between *paradox* (a seemingly contradictory statement that is nonetheless true) and an actual *contradiction* (American Heritage Dictionary, 1985)—by introducing methodologies and guidelines to reliably ascertain this important distinction within a cultural context. Finally, the present results underscore the need for further in-depth analyses regarding specific elements of traditionalism from a gender-based theoretical perspective to identify their specific effects as risk factors or as protective factors in the use of alcohol, tobacco, and other drugs, and in the development of various health-related behaviors.

Acknowledgments

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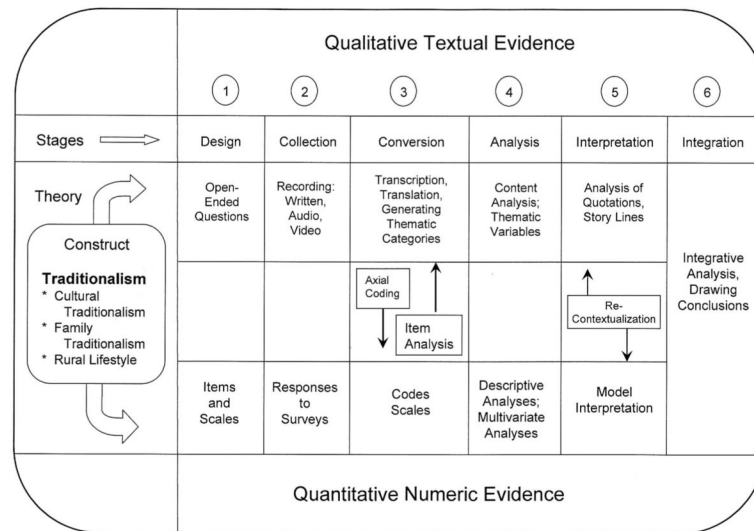
Figure 1.
A Multistage Paradigm for Integrative Mixed-Methods Research.

Table 1

Background Characteristics of the Sample of Participants and Outcome Variables

Variable	M	SD	Minimum	Maximum
Age	28.41	6.52	17.00	50.00
Level of acculturation	2.38	1.15	1.00	5.00
	n			%
Years of education (total United States and Mexico)				
0–6	18			24.0
7–9	14			18.7
10–12	32			42.7
13–16	11			14.7
Language spoken				
Spanish better than English (low acculturation)	42			54.6
Both equally well (bicultural)	19			24.7
English better than Spanish (high acculturation)	16			20.8
Ethnic background				
Anglo American	8			10.4
Latina/Hispanic	61			79.2
Native American Indian	1			1.3
Mixed background	7			9.1
Marital status				
Married	47			61.0
Separated, divorced or widowed	7			9.0
Never married	13			16.9
Unmarried couple or other	10			13.0
Health status				
Poor	6			7.8
Fair	24			31.2
Good	37			48.1
Excellent	10			13.0
Outcomes				
Initial sample				

Variable	M	SD	Minimum	Maximum
Pregnancy self-care beliefs				
0 (weaker belief-may believe it)	15		19.4	
1 (stronger belief-yes, I believe it)	62		80.5	
Alcohol abstinence				
0 (alcohol consumption-low)	31		40.2	
1 (absolute abstinence)	46		59.7	
Revised sample				
Pregnancy self-care beliefs				
0 (weaker belief-may believe it)	7		14.0	
1 (stronger belief-yes, I believe it)	43		86.0	
Alcohol abstinence				
0 (alcohol consumption-low)	22		44.0	
1 (absolute abstinence)	28		56.0	

Table 2

Correlations Among Cultural Scales and Outcome Variables

Scale or item	Items	α	1	2	3	4	5	6
Traditionalism variables								
1. Acculturation	5	.91	—					
2. Family traditionalism	8	.75	−.33**	—				
3. Rural lifestyle	5	.79	−.18	.66***	—			
4. Folk beliefs	5	.79	−.49***	.42***	.31**	—		
Health-related outcomes								
5. Pregnancy self-care beliefs	1	—	−.04	−.11	.04	−.10	—	
6. Alcohol abstinence	1	—	−.12	−.08	−.03	−.05	−.14	—

*
  p < .01.

***
  p < .001.

Table 3

Inductively Developed Thematic Categories

Category	Thematic category	Key terms	Characteristic level 3 responses
Family traditionalism			Q1. How "should" husbands, wives, and children act? What is the "right way" to act? What are certain family members supposed to do?
F1	Macho privilege	Man, woman, say, house OR mother	The husband is the one who gives "orders." The wife never says what she feels. The children should "obey," no matter what.
F2	Family trust and respect	Respect OR trust OR work OR help	Always share everything equally and there should be respect among everyone/between couples and children.
F3	Family unity	Family OR unity	Above all, there should be family unity.
F4	Values traditions	Tradition OR continue OR important	If she is a true believer, she should always participate in the traditions.
F5	Adheres to customs	Country OR agree OR more OR communicate	She does the things that she did back in her native country.
F6	Resists change	Parent OR way OR change	Maria does not believe in changing her ways. Everything that her parents believe, so does she.
Rural lifestyle			Q2. Many "traditional" people like Maria believe that life In a small rural town is better than life in a big city. Please tell me some of these beliefs.
R1	Small town life is better	Small town OR everybody knows each other	Because there is so much violence in the big city. . .. You know your town and people and you trust each other like family.
R2	Big-city opportunities	Live OR believe OR big cities OR better	Better to live in a big city because there are more jobs and educational opportunities.
R3	Rural tranquility	Life OR less stress OR rural	I agree that life in a small town is better because in a small town life is more peaceful. There is less gang activity and overall life is more peaceful.
R4	It depends	It depends OR more opportunities OR the city	Sometimes it is true that rural life is better. However, it's also true that a big city can help you or destroy you; that depends on you.
R5	Traditions are easier to follow in small towns	Traditions OR follow	Traditions are of greater use in smaller towns because they originate in small towns.

Table 4

Correlations Among the Thematic Variables

Variable	Family traditionalism						Rural lifestyle				
	F1	F2	F3	F4	F5	F6	R1	R2	R3	R4	R5
Family traditionalism											
F1: Macho privilege	—										
F2: Family trust and respect	.03	—									
F3: Family unity	-.26*	.23	—								
F4: Values traditions	-.30**	-.16	-.09	—							
F5: Adheres to customs	-.24*	-.24*	-.16	.54***	—						
F6: Resists change & old-fashioned	-.24*	-.20	-.06	.47***	.27*	—					
Rural lifestyle											
R1: Small town life is better	.12	.16	.32**	.07	-.12	.01	—				
R2: Big-city opportunities	.20	.30**	.03	-.07	.08	.10	-.16	—			
R3: Rural tranquility	.08	.37***	.36***	-.20	-.19	-.18	.43***	-.03	—		
R4: It depends	-.11	.16	-.07	-.04	.00	.03	-.11	.43***	-.04	—	
R5: Traditions are easier to follow in small towns	.07	-.11	-.17	.12	.02	.18	.06	.18	-.23*	-.08	—

Note. F1: Macho privilege = macho male dominance; wife and children must be subservient and submissive; F2: Family trust and respect = trust and respect between the spouses; F3: Family unity = family should be united in doing things together; F4: Values traditions = important that family maintain its traditions; F5: Adheres to customs = follows the customs of her native country; F6: Resists change = resists change and adheres strictly to parental teachings; R1: Small-town life is better = life in small towns is better because of the sense of community; R2: Big-city opportunities = life is better in the big city because of more opportunities; R3: Rural tranquility = rural life is tranquil and less stressful; R4: It depends = city and country life have their advantages and disadvantages—it depends; R5: Traditions are easier in small towns = it is easier to follow traditions in a small town.

*
  p < .05.

**
  p < .01.

***
  p < .001.

Table 5

Correlations Between Scaled and Thematic Variables

Cultural scale	Family traditionalism						Rural lifestyle				
	F1	F2	F3	F4	F5	F6	R1	R2	R3	R4	R5
Acculturation	.19	−.06	−.32**	−.21	−.06	.01	−.00	−.18	.00	−.06	.06
Family traditionalism	.04	−.01	.19	.09	−.13	.13	.27*	−.04	.04	−.06	.20
Rural lifestyle	.08	.16	.16	.06	−.18	.01	.17	−.01	.01	−.18	.24*
Folk beliefs	−.02	.03	.19	.15	−.10	.08	.16	.10	.10	.09	−.03

Note. F1 = Macho privilege (macho male dominance; wife and children must be subservient and submissive); F2 = Family trust and respect (trust and respect between the spouses); F3 = Family unity (family should be united in doing things together); F4 = Values traditions (important that family maintain its traditions); F5 = Adheres to customs (follows the customs of her native country); F6 = Resists change (resists change and adheres strictly to parental teachings); R1 = Small-town life is better (life in small towns is better because of the sense of community); R2 = Big-city opportunities (life is better in the big city because of more opportunities); R3 = Rural tranquility (rural life is tranquil and less stressful); R4 = It depends (city and country life have their advantages and disadvantages—it depends); R5 = Traditions are easier in small towns (it is easier to follow traditions in a small town).

*
p < .05.

**
p < .01.

Table 6

Semipartial Correlations Between Thematic and Outcome Variables

Thematic variable	Pregnancy self-care beliefs				Alcohol abstinence			
	r	Self-referent *sr*	Other-referent *sr*	Indeterminate *sr*	*r*	Self-referent *sr*	Other-referent *sr*	Indeterminate *sr*
Family traditionalism								
F1: Macho privilege	.123	.121	.115	.093	−.190	−.210	−.185	−.194
F2: Family trust and respect	.228*	.227*	.219	.203	−.187	−.203	−.182	−.190
F3: Family unity	.191	.190	.166	.151	.067	.053	.086	.073
F4: Values traditions	−.214	−.215	−.177	−.184	.045	.040	.017	.045
F5: Adheres to customs	−.449***	−.456***	−.434***	−.425***	.072	.062	.035	.074
F6: Resists change & old-fashioned	−.101	−.101	−.077	−.080	.089	.088	.075	.089
Rural lifestyle								
R1: Small-town life is better	.147	.150	.122	.126	−.262*	−.266*	−.265*	−.276*
R2: Big-city opportunities	−.179	−.186	−.226*	−.181	−.006	.000	−.008	−.006
R3: Rural tranquility	.219	.214	.197	.228*	−.284*	−.280*	−.286*	−.281*
R4: It depends	.010	−.007	−.025	.047	−.111	−.101	−.114	−.098
R5: Traditions are easier to follow in small towns	−.184	−.177	−.152	−.224*	.274*	.273*	.279*	.267*

Note. F1: Macho privilege = macho male dominance; wife and children must be subservient and submissive; F2: Family trust and respect = trust and respect between the spouses; F3: Family unity = family should be united in doing things together; F4: Values traditions = important that family maintain its traditions; F5: Adheres to customs = follows the customs of her native country; F6: Resists change = resists change and adheres strictly to parental teachings; R1: Small-town life is better = life in small towns is better because of the sense of community; R2: Big-city opportunities = life is better in the big city because of more opportunities; R3: Rural tranquility = rural life is tranquil and less stressful; R4: It depends = city and country life have their advantages and disadvantages-it depends; R5: Traditions are easier in small towns = it is easier to follow traditions in a small town.

*
  p < .05.

***
   p < .001.

Table 7

Predictors of Health Beliefs and Alcohol Abstinence

Model	B	SE	Wald $\chi^2(1)$	OR	95% CI
Total sample (N = 77)					
Pregnancy self-care beliefs (Model 1a)					
Acculturation	−0.391	0.331	1.39	0.68	.35, 1.29
Family traditionalism	0.397	0.703	0.32	1.49	.38, 5.90
Rural lifestyle	−0.591	0.502	1.39	0.55	.21, 1.48
Adherence to customs (F5)	−1.916	0.543	12.44***	0.15	.05, .43
Big-city opportunities (R2)	−0.965	0.426	5.12*	0.38	.17, .88
Constant	4.04	2.783	2.11	57.08	—
Alcohol abstinence (Model 1b)					
Acculturation	−0.311	0.229	1.84	0.73	.47, 1.15
Family traditionalism	−0.535	0.539	0.99	0.59	.20, 1.68
Rural lifestyle	0.136	0.319	0.18	1.15	.61, 2.14
Rural tranquility (R3)	−0.720	0.306	5.52*	0.49	.27, .89
Constant	3.175	2.05	2.40	23.93	—
Models for subsample (n = 50)					
Pregnancy self-care beliefs (Model 2a)					
Acculturation	−0.293	0.404	0.53	0.75	.34, 1.65
Rural lifestyle	−0.358	0.465	0.59	0.70	.28, 1.74
Big-city opportunities (R2)	− 1.11	0.467	5.66*	0.33	.13, 0.82
Constant	4.593	2.470	3.46	98.79	—
Alcohol abstinence (Model 2b)					
Acculturation	0.021	0.288	0.01	1.02	.58, 1.79
Family traditionalism	−0.314	0.628	0.25	0.73	.21, 2.50
Rural lifestyle	0.236	0.370	0.40	1.27	.61, 2.63
Rural tranquility (R3)	−0.712	0.340	4.40*	0.49	.25, 0.95
Constant	0.989	2.411	0.17	2.69	—

Note. For the final pregnancy self-care beliefs model (Model 2a), the overall model $\chi^2(3, N = 50) = 6.08$, $p = .108$. For the final alcohol abstinence model (Model 2b), the overall model $\chi^2(4) = 5.38$, $p = .251$. OR = odds ratio; CI = confidence interval.

*
$p < .05$.

***
$p < .001$.