# Acculturation and Values and Traditions: notes and methods [English - translated from Spanish version]

I have put together a series of articles that I hope can generate some ideas about how to measure how much people value their traditions and knowledge. I have divided the document into two sections: the first refers to studies on acculturation and the second to studies related to ecological knowledge and valuation.

Several articles analyse how one could measure how people value their own culture using scales etc., but they could be modified or used in another way to measure or have a measure of the value of the indigenous knowledge. It would be necessary to establish a binary of some kind between Andean plants and other plants, or traditional and "modern" knowledge. There are many other examples of 'Acculturation Scales' (see below), similar to what Reyes-Garcia use, despite Guarnaccia (2016) saying that we must abandon the scales! They could still be useful to see differences, and measure changes in the valuation of traditions. The one I like the most is Reye-Garcia with the ladder and several questions to understand where people see themselves on the stairs (whose position is randomised). The study by Dominguez et al. is also interesting: they develop an index based on eight questions ... as you can see there are many possibilities here to use scales or indexes but I do not know if it is what will be useful to you ...

Below, I have put some studies that I found interesting about ecological knowledge and the values ​​associated with this knowledge. There is an interesting study and it can be very relevant of Cruz-Garcia and Howard 'I used to be ashamed' that included a 'test' to measure the knowledge of wild edible plants, but also questions about the perceptions of children about the attitudes of others towards wild edible plants. Towards the end, there is an article by Schneller et al. 'Measuring Children's Environmental Attitudes and Values ​​in Northwest Mexico' that uses a scale on ecological values ​​with several questions (on a Likert scale). This is similar to many of the examples of acculturation scales.

# Acculturation

**Guarnaccia, P. J. & Hausmann-Stabile, C. (2016) Acculturation and Its Discontents: A Case for Bringing Anthropology Back into the Conversation, *Sociology and Anthropology* 4(2), p. 114.**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5008869/>

“Acculturation scales should be altogether abandoned, as clearly no single scale can capture these processes. In much of current acculturation research there has grown to be a tyranny of acculturation scales that make false promises about taking account of participants’ “culture” in the research. This approach is counter-productive for moving acculturation research forward.”

**Reyes-García, V. et al. (2014) Cultural Change and Traditional Ecological Knowledge: An Empirical Analysis from the Tsimane’ in the Bolivian Amazon, *Human Organization*, 73(2), pp. 162–173.**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026296/#R10>

3.3. Individual-level cultural change

“We followed a long tradition in cross-cultural research and used a bipolar multidimensional scale that proxies for individual cultural change ([Cuellar, et al. 1980](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026296/#R10); [Olmedo 1979](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026296/#R37); [Padilla 1980](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026296/#R38); [Szapocznik, et al. 1978](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026296/#R61)). We selected eight topics that capture traditional Tsimane’ beliefs and values ([Huanca 2008](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026296/#R27)) and elaborated one question per topic ([Table 1](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026296/table/T1/)). Questions were presented in the form of a ladder with five steps and two scenes, one at the bottom and one at the top. The scenes represented a “traditional” vs. a “modern” Tsimane’. Respondents were asked to indicate where they would place themselves somewhere along the ladder. For each respondent, we randomized the location of the “traditional” and of the “modern” scene. After de-randomizing answers, we used a measure of reliability (Cronbach’s alpha coefficient) to test for the internal consistency between answers to the eight questions. Since variables were positively associated with each other (see [Results](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026296/#S10)), we assumed that they measure parts of the same construct and added responses to the eight questions to create a new variable that we named detachment to tradition [*detachment index* (n=484)], for which lower scores indicate more closeness to traditional Tsimane’ beliefs and values.”

**Dominguez, P., Zorondo-Rodríguez, F. & Reyes-García, V. (2010) Relationships between Religious Beliefs and Mountain Pasture Uses: A Case Study in the High Atlas Mountains of Marrakech, Morocco, *Human Ecology*, 38(3), pp. 351–362.**

<https://link.springer.com/article/10.1007/s10745-010-9321-7>

Full article [here](https://www.researchgate.net/profile/Francisco_Zorondo-Rodriguez/publication/226460246_Relationships_Between_Religious_Beliefs_and_Mountain_Pasture_Uses_A_Case_Study_in_the_High_Atlas_Mountains_of_Marrakech_Morocco/links/0f3175323a93949767000000.p)

Saint’s beliefs index:

“Our main explanatory variable was the belief of the informants in the local Saints, measured through an index created on the basis of eight questions concerning the informants’ faith in the Saints religious tradition. To construct the eight questions we first used ethnographic information collected during the previous 3 years of fieldwork, informal discussions, and formal focus groups…For each of the eight questions we asked informants to indicate their level of attachment on a scale from 1 to 5, where 1 represented the lowest and 5 the highest attachment to the beliefs in Saints.”

**Marin, G. et al. (1987) Development of a Short Acculturation Scale for Hispanics, *Hispanic Journal of Behavioral Sciences*, 9(2), pp. 183–205.**

This article reports the development of a short (12-item) acculturation scale for Hispanics. Separate factor analyses of the responses of 363 Hispanics and 228 non-Hispanic whites produced three factors: "Language Use," "Media," and "Ethnic Social Relations." The 12-item scale (explaining 67.6% of the variance for Hispanics) correlated highly with the following validation criteria: respondents' generation, length of residence in the U.S., age at arrival, ethnic self-identification, and with an acculturation index. The first factor consists of only five items and explains 54.5% of the variance while maintaining strong correlations with the various criteria. The validity and reliability coefficients for this new short scale are comparable to those obtained for other published scales. Separate validations for Mexican Americans and Central Americans showed similar results.



**Instruments To Measure Identity and Acculturation**

<https://www.ncbi.nlm.nih.gov/books/NBK248425/>

### **Acculturation and Ethnic Identity Measures**

| **Instrument** | **Description** | **Cultural Group** |
| --- | --- | --- |
| African American [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale-Revised ([Klonoff and Landrine 2000](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This scale measures eight dimensions of African American [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/): (1) traditional beliefs and practices, (2) traditional family structure and practices, (3) traditional socialization, (4) preparation and consumption of traditional foods, (5) preference for African American things, (6) interracial attitudes, (7) superstitions, and (8) traditional health beliefs and practices. | African Americans |
| Black Racial Identity Attitude Scale—Form B ([Helms 1990](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This scale measures beliefs or attitudes of Blacks toward both Blacks and Whites using 5-point scales. It is available in short and long forms. | African Americans |
| Cross Racial Identity Scale ([Worrell et al. 2001](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This scale measures six identity clusters associated with four stages of racial identity development. | African Americans |
| Multidimensional Inventory of Black Identity (MIBI; [Sellers et al. 1997](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | The MIBI measures centrality of Black identity, ideology, and regard for a Black identity. It is available online at [http://sitemaker​.umich​.edu/aaril/files/mibiscaleand](http://sitemaker.umich.edu/aaril/files/mibiscaleand) scoring.pdf. | African Americans |
| Scale To Assess African American [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) ([Snowden and Hines 1999](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This is a 10-item scale that assesses media preferences, racial bias in relationships, [race](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d34/)-related attitudes, and comfort in interacting with other races. | African Americans |
| African Self-Consciousness Scale ([Baldwin and Bell 1985](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This scale measures within-group variability in the level of [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/)/cultural identity continuum ([Baldwin and Bell 1985](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) based on degree of Afrocentricity or Nigrescence (White and Parham 1996). It indicates a client's level of involvement in traditional African American [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/) or the core African-oriented [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/). | African Americans/African Immigrants |
| Native American [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Garrett and Pichette 2000](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | The Native American [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) scale asks 20 questions to ascertain a client's level of involvement with Native American [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/). | Native Americans |
| Rosebud Personal Opinion Survey ([Hoffmann et al. 1985](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This assessment evaluates components of [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/), including [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, values, social behaviors, social networks, religious affiliation and practice, home community, education, ancestry, and cultural identification. | Native Americans |
| Asian American Multidimensional [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale (AAMAS; [Gim Chung et al. 2004](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | The AAMAS was developed to be easy to use with a variety of Asian American ethnic groups. It includes questions relating to cultural identity, [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, cultural knowledge, and food preferences. | Asian Americans |
| Cultural Adjustment Difficulties Checklist (CADC; [Sodowsky and Lai 1997](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | The CADC helps avoid potential problems relating to [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) by asking about [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, social customs, family interactions, perceptions of prejudice, friendship networks, and cultural adjustment. | Asian Americans (East [Asians](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d3/)) |
| East Asian [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Measure ([Barry 2001](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This instrument includes 29 items that assess assimilation, level of separation from other [Asians](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d3/), integration, and marginalization. | Asian Americans (East [Asians](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d3/)) |
| Suinn-Lew Asian Self-Identity [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Suinn et al. 1992](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This instrument was modeled after the [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Rating Scale for Mexican Americans, and research indicates it has high reliability. | Asian Americans |
| Internal-External Ethnic Identity Measure ([Kwan 1997](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | The instrument evaluates ethnic friendships and affiliation, ethnocommunal expression, ethnic food orientation, and family collectivism, in order to differentiate three Chinese American identity groups: (1) internal, (2) external, and (3) internal-external undifferentiated. | Chinese Americans |
| Marín and Marín [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Marín et al. 1987](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This scale is a 12-item instrument that assesses three domains: (1) [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, (2) media preferences, and (3) ethnic diversity of social relations. It is available online at [http://www​.columbia.edu​/cu/ssw/projects/pmap​/docs/gupta\_acculturation.pdf](http://www.columbia.edu/cu/ssw/projects/pmap/docs/gupta_acculturation.pdf) | Chinese Americans |
| Behavioral [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale and Value [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Szapocznik et al. 1978](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | These two scales, used in conjunction with one another, ask individuals about behaviors and values in order to determine [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/). If used singly, the behavioral scale is the superior measure for [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/). | Cuban Americans |
| Na Mea Hawai'i (Hawaiian Ways), A Hawaiian [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Rezentes 1993](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This is a 34-item scale. An adolescent version is available (Hishinuma et al. 2000). | Native Hawaiians |
| Abbreviated Multidimensional [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale (AMAS-ZABB; [Zea et al. 2003](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | The AMAS-ZABB is a multidimensional, bilinear, 42-item scale that evaluates identity, [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) competence, and [cultural competence](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d9/). | [Latinos](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d20/) |
| [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Marin et al. 1987](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This 12-item [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) scale, available in English and Spanish, evaluates [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, media preferences, and social activities. It is available online at [http://casaa​.unm.edu​/inst/MARIN%20Short%20Scale.pdf](http://casaa.unm.edu/inst/MARIN%20Short%20Scale.pdf) | [Latinos](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d20/) |
| Bicultural Involvement Questionnaire (BIQ; [Szapocznik et al. 1980](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | The BIQ assesses [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use and involvement in both Latino and mainstream American activities. It relates two sets of scores to derive a measure of bicultural involvement, with individuals who are highly involved in both cultures scoring highest on the scale. | [Latinos](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d20/) |
| The Bidimensional [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale for Hispanics ([Marin and Gamba 1996](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This 24-item scale asks questions about [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) proficiency, and media preferences. | [Latinos](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d20/) |
| Brief [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale for Hispanics ([Norris et al. 1996](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This scale has only four items, but scores on the scale have been correlated highly with generation, nativity, length of time in the United States, [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) preferences, and subjective perceptions of [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/). | [Latinos](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d20/) |
| Multidimensional Measure of Cultural Identity for [Latinos](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d20/) ([Felix-Ortiz et al. 1994](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This measure places adolescents in one of four categories based on [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/), behavior/familiarity, and values/attitudes: (1) bicultural, (2) Latino-identified, (3) American-identified, and (4) low-level bicultural. | [Latinos](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d20/) |
| [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Rating Scale for Mexican Americans-I (ARSMA-I; [Cuellar et al. 1980](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | The ARSMA-I differentiates between 5 levels of [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/): (1) Very Mexican, (2) Mexican-Oriented Bicultural, (3) True Bicultural, (4) Anglo-Oriented Bicultural, and (5) Very Anglicized. Established validity. | Mexican Americans |
| [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Rating Scale for Mexican Americans-II ([Cuellar et al. 1995](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This scale is like the ARSMA-I, except that it includes separate subscales to measure multidimensional aspects of cultural orientation toward Mexican and Anglo cultures independently. | Mexican Americans |
| Cultural Life Style Inventory ([Mendoza 1989](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This self-report instrument, available in Spanish and English, evaluates five dimensions of [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/): intrafamily [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, extrafamily [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, social activities and affiliations, cultural knowledge and activities, and cultural identification and pride. | Mexican Americans |
| Cultural Life Style Inventory ([Mendoza 1989](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This self-report instrument, available in Spanish and English, evaluates [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) on five dimensions: intrafamily [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, extrafamily [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, social activities and affiliations, cultural knowledge and activities, and cultural identification and pride. | Mexican Americans |
| Mexican American [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Montgomery 1992](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This 28-item scale evaluates cultural orientation and comfort with ethnic identity. Items ask about [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/) use, media preferences, cultural activities/traditions, and self-perceived ethnic identity. | Mexican Americans |
| Padilla's [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Padilla 1980](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | Padilla's [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale is a 155-item questionnaire that assesses cultural knowledge and ethnic loyalties. | Mexican Americans |
| Bidimensional [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale for Hispanics ([Marín and Gamba 1996](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This scale measures evaluates two major dimensions of [acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) (Hispanic and non-Hispanic) using 12 items measuring 3 [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/)-related areas. It has been found to have high consistency and validity. | Mexican Americans and Central Americans |
| Stephenson Multigroup [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Stephenson 2000](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This is a 32-item instrument that evaluates immersion in both [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/) of origin and the dominant [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/) of the society. | Multicultural |
| Vancouver Index of [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) ([Ryder et al. 2000](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This instrument includes 20 questions that assess interest/participation in one's “heritage [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/)” and “typical American [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/)” (available online at [http://www2​.psych.ubc​.ca/˜dpaulhus​/Paulhus\_measures/VIA.American.doc](http://www2.psych.ubc.ca/%CB%9Cdpaulhus/Paulhus_measures/VIA.American.doc)). | Multicultural |
| Bicultural [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale ([Cortés and Rogler 1994](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | Developed for use with first- and second-generation Puerto Rican adults, this scale measures involvement in American [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/) and Puerto Rican [culture](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d15/), but it has limited evidence of validity and reliability. | Puerto Rican Americans |
| Psychological [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale (Tropp et al. 1999) | The items on this scale pertain to the client's sense of psychological attachment to and belonging within Anglo American and Hispanic/Latino cultures. | Puerto Ricans on the U.S. mainland |
| [Acculturation](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d1/) Scale for Southeast [Asians](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d3/) ([Anderson et al. 1993](https://www.ncbi.nlm.nih.gov/books/NBK248425/)) | This 13-item scale evaluates languages proficiency and preferences regarding social interactions, cultural activities, and food. It includes two subscales for proficiency in languages, as well as [language](https://www.ncbi.nlm.nih.gov/books/n/tip59/appg/def-item/appg.gl1-d24/), social, and food preferences. | Cambodian, Laotian, and Vietnamese Americans |

# Ecological knowledge, values and children

**McCarter, J. & Gavin, M. C. (2011) Perceptions of the Value of Traditional Ecological Knowledge to Formal School Curricula: Opportunities and Challenges from Malekula Island, Vanuatu, *Journal of Ethnobiology and Ethnomedicine*, 7, p. 38.**

<https://ethnobiomed.biomedcentral.com/articles/10.1186/1746-4269-7-38>

**Results**

Participants reported that TEK had eroded on Malekula and identified the formal school system as a principal driver. Most interviewees believed that if an appropriate format could be developed, TEK could be included in the formal education system. Such an approach has potential to maintain customary knowledge and practice in the focus communities. Participants identified several specific domains of TEK for inclusion in school curricula, including ethnomedical knowledge, agricultural knowledge and practice, and the reinforcement of respect for traditional authority and values. However, interviewees also noted a number of practical and epistemological barriers to teaching TEK in school. These included the cultural diversity of Malekula, tensions between public and private forms of knowledge, and multiple values of TEK within the community.

**Cruz-Garcia, G. S. & Howard, P. L. (2013) ‘I Used to Be Ashamed’. The Influence of an Educational Program on Tribal and Non-Tribal Children’s Knowledge and Valuation of Wild Food Plants, *Learning and Individual Differences*, 27, pp. 234–240.**

**Abstract**

This study examines the influence of an extra-curricular educational program on children's knowledge and cultural valuation of wild food plants, which are an important component of their diets. This program aims to reinforce children's traditional knowledge and values around biological resources in Wayanad, India's Western Ghats, encouraging tribal and non-tribal children to learn from each other and from their own communities. Results show that the educational program has enhanced children's ability to identify selected wild food plants. Moreover, strong social stigma related to wild food plant gathering also appears to have been effectively countered, and the program seems to have created more self-confidence among the children about (a) the perceptions of others' social attitudes towards their gathering practices, and (b) the importance of these plants as part of their diets and cultures.

**Methods:**

To assess children's knowledge of wild food plants, a photo identification exercise was conducted with all of the children that participated in the study, using a sample of 41 selected wild food plants drawn from previous botanical research conducted in this area by Narayanan et al. (2004) (Table 2). This previous research had identified vernacular names of these plants for each of the tribes and non-tribal rural groups in Wayanad. This test measured children's ability to provide a ‘correct’ vernacular name for those plants that they could identify when exposed to photos of their edible parts (leaf, tuber and/or fruit). Although children were expected to provide the vernacular name of a species given by their own socio-cultural group, the use of vernacular names used by another socio-cultural group was also accepted as a correct answer. All of those plants that children could not identify or for which incorrect names were given (incorrect for all socio-cultural groups) were considered as incorrect answers.

**Cultural stigma related to collecting wild plants:**

“Regarding children's perceptions of other's attitudes toward wild food plant collection, it is notable that 77% of the children who participated in the ‘Every Child a Scientist’ (ECS) and who gathered wild food plants did not have any problem with others observing them while gathering these plants, whereas more than half (54%) of the children who did not participate in the educational program disliked it. After analysing the results using the Chi2 non-parametric test, it was shown that this difference is significant at the 0.05 level, meaning that the ECS had a significant influence on children's perceptions of others' attitudes towards wild food plant collection and hence a positive effect on their own attitudes”

“The children who disliked it if others observed them gathering wild food plants repeatedly said that they felt ‘ashamed’ when they were observed because these plants are considered as, e.g. ‘low caste food’. Moreover, they said that non-tribal people scolded, insulted, or otherwise made fun of them if they were observed collecting such plants. It was thus clear from the children's explanations that social stigma associated with wild food plant collection was the major reason that children disliked being observed while gathering and, as mentioned earlier, stigmatization of wild food plants is related to social identities and others' attitudes towards such identities”

**Schneller, A. J., Johnson, B. & Bogner, F. X. (2015) Measuring Children’s Environmental Attitudes and Values in Northwest Mexico: Validating a Modified Version of Measures to Test the Model of Ecological Values (2-MEV), *Environmental Education Research*, 21(1), pp. 61–75.**

“Until the mid-1990s, an age-appropriate empirical instrument to measure children’s environmental values (following all existing psychometric standards) did not exist.”

**Methods**

When designing the 2-MEV for use in Mexico, we built upon the work of Johnson and Manoli (2008), whose research was based on the Model mentioned above (Wiseman and Bogner 2003; Bogner and Wiseman 2006). As such, we based our modified 2-MEV on Johnson and Manoli’s 16 item version of the 2-MEV scale. The 2-MEV is comprised of statements with Likert-type responses. In scoring, items are grouped via factor analysis into primary factors under each of the secondary (higher order) factors

Each item has a 5-point Likert-type response set ranging from 1 ‘strongly disagree’ to 5 (strongly agree), with a midpoint of 3 (not sure).

**Appendix 1. Model of Ecological Values scale – Mexico version**

1. Me aseguro que todas las luces estén apagadas cuando ya no las necesito. I make sure that all the lights are turned off when I don’t need them.
2. Las personas tienen el derecho de cambiar el ambiente (naturaleza). People have the right to change the environment (nature).
3. Me siento bien en el silencio de la naturaleza. I feel good in the silence of nature.
4. Si algún día tengo tiempo libre, me gustaría hacer trabajo para ayudar a proteger el ambiente.  If some day I have free time, I would like to volunteer to help protect the environment.
5. Trato de caminar o usar mi bicicleta cuando salgo en vez de usar el carro. When I leave I try to walk or use my bicycle instead of using the car.
6. Construir nuevas carreteras es tan importante, que debemos de cortar los arboles y los cactus. Constructing new roads is so important that we should cut down trees and cactus
7. Intento de decirles a otros que la naturaleza es importante. I try to tell others that nature is important.
8. Trato de cuidar el agua teniendo mis duchas mas cortas, o cerrando la llave del agua cuando me lavo los dientes.  I try to save water by taking shorter showers or turning off the water when I brush my teeth.
9. Las personas deben de reinar sobre la naturaleza. People are supposed to rule over nature.
10. Me encantaría visitar un oasis en el desierto para mirar pájaros volando. I would really enjoy visiting an oasis in the desert to watch birds in flight.
11. La mala hierba debe de ser cortada porque toman el espacio de las plantas  que necesitamos. Weeds should be cut because they take up space from the plants that we  need.
12. Las personas deben de comer huevos y carne de las tortugas del mar en  ocasiones importantes, como quinceañeras y navidad. People should be able to eat the eggs and meat from sea turtles on important occasions like quinceañeras and Christmas.
13. Si yo tuviera dinero extra estaría de acuerdo para dar a un teletón que proteja la naturaleza.  If I have extra money I would be open to donating to a telethon that protects nature.
14. Para alimentar a las personas, la naturaleza debe de ser quitada para poder cultivar comida.  To feed people nature should be cleared in order to grow food.
15. Debido a que los mosquitos viven en las áreas húmedas, sería mejor drenar  las tierras para poder cultivar. Because mosquitos live in wetlands, it would be better to drain the land for farming.
16. Me gusta ir de paseo a la naturaleza, por ejemplo a la playa, las montañas o el desierto. I like to go on trips to nature, for example to the beach, the mountains or the desert.

Note: Items 1, 3, 11, and 12 (in italics) were dropped from the final scale.

**Hunn, E. S. (2002) Evidence for the Precocious Acquisition of Plant Knowledge by Zapotec Children, Ethnobiology and Biocultural Diversity, 604, p. 13.**

<http://qualquant.org/wp-content/uploads/ethnoecology/Hunn%202002.pdf>

“I will consider evidence that children in subsistence-dependent indigenous communities master great quantities of empirical knowledge about their local natural environment before 12 years of age without the benefit of formal instruction (Stross 1973). By comparison, most urban American adults are profoundly ignorant of their local floral and faunal environment (Dougherty 1979). The results of studies of ethnobotanical vocabulary acquisition by American and Tzeltal Mayan children is summarized in Table 1. If this were simply a matter of children learning what they are taught it would be of limited significance. However, if acquisition of environmental knowledge is like first language learning, “acquisition deprivation” at a critical age may be lasting.”

