Research Note

Informant-Provided Leisure Constraints in Six Taiwanese Cities

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Abstract

Lists of leisure activities and/or constraints used in research in non-Western settings are typically imported from studies executed in North America or Europe despite the possible influence of cultural context. To avoid this problem, we asked 182 informants from six cities in Taiwan to free list leisure constraints. While our primary purpose was to develop a culture-appropriate list of constraints for use in future research, we also illustrate how free lists can be analyzed in terms of item salience and the frequency with which groups that varied in terms of gender and age listed particular items. Results indicated that older informants listed constraints related to age and health more frequently than younger informants while younger informants were more concerned with resources, such as money. This study takes culture into account in research on leisure constraints by using an approach based on informant-provided items rather than standardized lists taken from other contexts and imposed by researchers.

In a recent study, Ito, Walker, and Liang (2014) found that only 4.1% of the 1,891 articles published in five leading leisure studies journals between 1990 and 2009 addressed leisure in non-Western settings. Moreover, when leisure researchers do conduct research in non-Western settings, they often impose conceptualizations of leisure developed in the West on those they study. While Hubbard and Mannell (2001) advocated the development of a pool of constraint items that could be drawn upon when researchers are "tailoring constraints scales to meet their needs" (p. 161), we feel that doing so now may be premature. A comprehensive set of constraint items is a worthy goal, but because the overwhelming majority of studies of leisure constraints have been conducted in the West, information about constraints in other cultures remains thin (Ito et al., 2014; Roberts, 2010). It is possible, for example, that common constraints, such as lack of time or money, differ little or differ only in intensity cross-culturally. However, it is also possible that sets of important constraints differ for individuals in collectivistic versus individualistic societies (Walker, Jackson, & Deng, 2007, 2008), for example, or in societies that vary in some other fundamental characteristic, such as cultural complexity (Chick, 1998).

In this paper, we show how free listing, a data collection technique commonly used in anthropology, cognitive psychology, and linguistics can be used to develop a culture specific list of leisure constraints. While such lists are most often used in subsequent research, such as surveys, it is also possible to examine them in their own right. In this study, we analyze lists of leisure constraints produced by informants from six cities in Taiwan. Although certain activities, such as art, games, play, music, and dance, have long been regarded as cross-cultural universals by anthropologists (Brown, 1991), it remains unclear whether the concept designated by the English term *leisure* is meaningful cross-culturally (Chick, 1998; Ito et al., 2014). Native speakers of Chinese in Taiwan use the term *Xiu xian* (休閒) to refer to leisure. While *Xiu xian* differs substantially from leisure in terms of its etymology, the present meanings of the terms are very similar (Liu, Yeh, Chick, & Zinn, 2008). Hence, conducting this study in a Chinese-speaking location meant that leisure was easily and accurately translated into the local language. Doing so in other languages, that lack terms with the same or a similar meaning, may be more problematic (Chick).

The purposes of this study are both methodological and substantive. Our primary goal was to develop a list of leisure constraints appropriate for the Taiwanese cultural context by soliciting constraints directly from informants in Taiwan rather than importing them from studies conducted in the West. This list was then used in the development of a survey employed to gather more extensive and detailed research on the relationship between leisure constraints and other variables in the Taiwanese context (Chick, Hsu, Yeh, & Hsieh, 2015). Second, we illustrate how free lists can be analyzed in order to determine the degree to which the constraints listed are salient in the minds of informants and, third, to show how a multivariate technique, correspondence analysis, can be used to examine differences in terms of the frequency in which constraints were listed depending on informants' characteristics such as age and gender.

Leisure Research in Taiwan

Leisure research in Taiwan can be traced to the late 1980s and has grown substantially in recent years (e.g., Chang, 2008; Chen, 1993; Hsu, Chuang, & Yeh, 2007; Hsu & Hsu, 2012; Yeh, Hsu, & Chick, 2011). When studying leisure activities, most research has utilized standardized inventories developed in North America, such as those of Ragheb (1980) and McKechnie (1975). However, Hsu et al. (2007) cautioned that lists developed in 1980s U.S. contexts are not appropriate for studying participants in 21st century Taiwan. In their time-budget study, Hsu et al. (2007)

found that the leisure activities of Taiwanese college students were new and diverse. Thirty-six percent involved internet or computer games, a major departure from the leisure inventories developed in U.S. contexts in the 1980s.

Leisure constraints research in Taiwan also began in the late 1980s (Yang, 1989), and between 1994 and 2011, approximately 90 journal publications addressed constraints in Taiwan (Chinese Electronic Periodical Services, 2011). Study populations included adolescents (Chao, 2008), the elderly (Wu & Chen, 2004), university students (Wu & Lin, 2006), women (Lee, 1997; Shieh, 2001), golfers (Lin, Li, & Yeh, 2004; Yeh, 2007), windsurfers (Chang, 2008), and people with visual impairments (Kuo, 2006). Nearly all of the lists used in these publication were developed in North America, at least in part. Shieh (2001), for example, employed a constraint list developed by Harrington and Dawson (1995), Wu and Chen (2004) based their list on that of Raymore, Godbey, Crawford, and Von Eye (1993). Both Lin et al. (2004) and Yeh (2007) used Crawford and Godbey's (1987) items while Chang (2008) borrowed from Carroll and Alexandris (1997). When using lists of items from North American studies, Taiwanese researchers typically retained some items in their original, but translated, form and added other, presumably context-specific items (e.g., Chang, 2008; Lin et al., 2004). Such changes were not based on information provided by informants, however, but on the understandings and opinions of the researchers.

Because of the cultural differences between Taiwan and Western societies where the great majority of research on leisure constraints have been conducted and where the commonly used lists of leisure constraints have been developed, we feel that a list of informant-provided leisure constraints developed in the Taiwanese context will be valuable for two reasons. First, such a list will remove concern over the possible non-relevance of Western-derived constraints to the cultural situation in Taiwan. Second, lists of informant-provided constraints will allow future comparisons with constraint lists developed elsewhere.

Methods

Data Collection

We developed a pool of leisure constraints in six Taiwanese cities using free listing, a technique that permits informants to define the content of cultural, semantic, or cognitive domains (e.g., Quinlan, 2005; Sanchez & Schrauf, 2008; Weller & Romney, 1988). Weller and Romney (1988) indicated that free listing "provides a strong source of cognitive data in terms of frequencies and the order properties of the individual lists. Informants can usually do the task in an easy and natural way. Free listing helps prevent researchers from using inappropriate items" (p. 16). Cognitive, cultural or semantic domains may be of two types. First, natural domains are those that users generally recognize and for which they often have a superordinate cover term. Oaks, maples and sequoias are all kinds of trees, for example, while bass, trout, and seahorses are kinds of fish. There are also what Barsalou (1983) termed *ad hoc* domains. These may not be generally recognized as coherent domains but knowledgeable individuals would be immediately able to populate them if the category is suggested to them. Examples include "things to take on a camping trip" (Barsalou, 1983) or, in the case of this study, "leisure constraints." Free listing is an effective technique for collecting the content of both natural and *ad hoc* domains (Quinlan, 2005; Sanchez & Schrauf, 2008).

Free listing is most often used to develop lists of items to be used in later research, such as a survey or interviews. However, free lists themselves provide important information, including item salience, list length, the number of items that are shared or unique across groups, and differ-

ences in lists based on individual characteristics of informants, such as age and gender (Quinlan, 2005; Sanchez & Schrauf, 2008). We used correspondence analysis to evaluate similarities and differences between the frequencies of constraints listed across informant groups based on age and gender.

     Informants. The study population included residents from six cities in Taiwan distributed geographically around the island. We chose to collect data in urban areas as a large majority of the residents of Taiwan resided in areas with populations of 20,000 or more at the time the data were gathered (2008) with a majority (55.5%) living in areas of cities of 150,000 or greater (Statistical Yearbook of the Republic of China, 2012). Table 1 below indicates the location of the cities surveyed with their 2014 populations. We selected the cities because both their sizes—three of the largest cities in Taiwan and three far smaller cities—and their geographic distribution might have reflected either regional or cultural differences in leisure activities and/or constraints. About 98% of the population of Taiwan resides in western locations, including Taipei, Taichung, Hsinchu, and Kahosiung while the east, which includes Hualien and Taitung, is sparsely populated. Similarly, the population of western Taiwan is almost entirely ethnic Han Chinese (about 98%) while about 30% of the residents of eastern Taiwan are indigenous. Income differences prevail, as well, with monthly income in western Taiwan about $3,024 (U.S. dollars) per month while residents of eastern Taiwan earn about $2,230 (U.S. dollars) per month. Western Taiwan has a considerably more developed infrastructure, with high-speed rail, super highways, and modern urban mass transit systems. Finally, the leisure infrastructures in western Taiwan include many museums, galleries, art events, urban parks, shopping centers, golf and tennis facilities, as well as four national parks. Fewer leisure facilities exist in the east but the opportunities for nature-based activities are excellent. Eastern Taiwan boasts a 300 kilometer-long coastline and two national parks, including the famous Taroko National Park.

Table 1

Locations and Populations* of Cities Surveyed

City	Location	2014 Population (millions)
Kaohsiung	Southern Taiwan	2.78
Taichung	West Central Taiwan	2.71
Taipei	Northern Taiwan	2.69
Hsinchu	Northwestern Taiwan	0.53
Hualien	Eastern Taiwan	0.33
Taitung	Southeastern Taiwan	0.22

*Source: Department of Statistics of Ministry of Interior (2014), as of July 2014, data from the Statistics release: resident population during July.

Informants were not randomly selected but were intercepted at locations such as parks, bus stops, train stops and shopping areas, and other public locations. We chose these because they offered unhurried environments where prospective informants had time to respond to the free listing task. While we attempted to diversify the sample by selecting informants from each administrative zone in all of the cities, providing between eight and eleven locations per city, this is no guarantee that the sociodemographics of each location were representative. Miller, Wilder, Stillman, and Becker (1997) found, however, that the intercept survey method yielded a higher response rate and more representative distributions of the age and sex of informants than a random-digit dial telephone survey.

The second and third authors collected free lists from 30 individuals in Taipei, 31 in Hualien, 30 in Taitung, 30 in Kaohsiung, 30 in Taichung, and 31 in Hsinchu for a total sample size of 182. All informants were at least 18 years old and we sought to include as wide a range of ages as possible. The sample was equally divided between males and females but we imposed no other restrictions on sample inclusion. Table 2 provides demographic information on the sample members.

Table 2

Frequencies or Means and Standard Deviations (in Parentheses) of Sample Sociodemographic Characteristics (n = 182)[1]

	Taipei	Hualien	Taitung	Kaoshoung	Taichung	Hsinchu	Total/ Mean	%
Gender								
Male	16	15	14	15	15	14	89	49.44
Female	14	14	16	15	15	17	91	50.56
Age: Mean	45.07	44.55	40.80	43.80	40.17	43.03	42.71	
(SD.)	(15.98)	(13.75)	(16.43)	(14.90)	(13.68)	(14.23)	(14.79)	
Income[2] per	105,869	67,380	67,521	86,889	77,941	92,105	82,606	
Month (SD)	(52,886)	(40,485)	(63,220)	(95,087)	(43,699)	(62,944)	(64,686)	
Education								
Elementary or Less	4	2	2	3	3	3	17	9.34
Middle School	3	3	5	1	2	4	18	9.89
High School	9	6	11	12	15	9	62	34.07
College	10	15	12	10	10	11	68	37.36
Graduate School	4	3	0	4	0	4	17	9.34
Marital Status								
Single	11	10	11	7	13	9	63	35.59
Married	14	17	13	21	13	20	98	55.37
Divorced	2	1	4	0	3	0	10	5.65
Widowed	2	0	1	1	0	2	6	3.39

[1] Row totals may not equal 182 due to missing data.
[2] Income is in Taiwanese dollars, the official currency of the Taiwan. One Taiwan dollar was worth approximately 0.0305 U.S. dollars at the time the data were collected.

Free listing. In order to familiarize informants with the free listing procedure, they were asked to list all of the kinds of animals, such as cats, dogs, horses, pigs and so on, that they could in a short period of time (about a minute). Then, informants were provided with the free listing questions below. The questions were written (in Chinese) with space provided for written responses and informants were given about a minute to complete each.

1. Now, in the same way that you named animals, please list all of the leisure activities that you can think of. I will tell you when to stop.
2. Now, in the same way that you named animals, please list the activities in which you currently participate for your leisure.
3. Next, please list any leisure interests that you have, and would like to be able to participate in, but cannot do so at this time because of constraining circumstances in your life.
4. Now, please list the reasons or factors that you believe constrain or prevent people from engaging in leisure activities in which they would like to participate, or participate in as often as they would like.
5. Next, please list the reasons or factors that you feel constrain you from engaging in leisure activities in which you would like to participate or prevent you from participating as often as you would like.
6. Please list the things that you could personally do to alleviate those reasons or factors that constrain you from engaging in leisure activities in which you would like to participate or as often as you would like to participate. List only those things that are feasible.
7. Please tell us what changes would improve your current leisure lifestyle?

Fortunately, we encountered few translation difficulties between Chinese and English. In response to question 2 above, for example, informants may have listed "mountain climbing" (登山), which is similar in meaning to its English translation. Or, they may have listed what translates literally as "climbing a mountain" (爬山) which is usually mixed by Taiwanese with "hiking" (健行). Hence, we combined these. In this paper, however, we address only the results of the cultural leisure constraints question (number 4 above). We encountered no translation issues with responses to it.

Item analysis. We retained items for later analysis that were listed by at least four informants. We examined the resulting list for item salience using Anthropac 4.83 (Borgatti, 1996).

Item by group analysis. We used correspondence analysis (CA) in order to examine possible relationship between the constraints listed and age by gender groups. CA is a descriptive multivariate data analysis technique designed to evaluate two- and multi-way tables that are presumed to have some sort of correspondence between row and column variables, such as eye color and hair color or smoking frequency and job classification (Greenacre, 2007; Weller & Romney, 1990). It is typically used as an exploratory technique for detecting possible relationships among variables or when *a priori* expectations about how the variables might be related are incomplete rather than for strict hypothesis testing.

CA coordinates are analogous to those in principal components analysis (PCA), except that components are based on a chi-square rather than partitioning the total variance, as in PCA (Greenacre, 2007; Weller & Romney, 1990). The first axis, or dimension, accounts for the largest part of the association, termed *inertia* (defined as the total Pearson chi-square for the table divided by the sum of the margins), the second for the next largest part, and so on, until the total reaches 100%. CA also provides graphical representations of row and column variables in

the same space, thereby showing their association visually. The frequency counts derived from free listing are appropriate for CA when divided among categories of respondents. In this study, we used CA to examine the frequency with which leisure constraints were listed by informants grouped on the basis of gender and three age ranges (i.e., ≤ 34 years, 35–50 years and ≥ 51 years).

Results

The 182 informants listed an average of 2.714 leisure constraints and provided an initial total of 79. Twenty-six constraints were listed by only one individual. However, many of constraints listed were duplicates worded differently (e.g., *sleep* and *not enough sleep*; *companions* and *no companions*), restatements of the question (e.g., *barriers* and *excuses*) or items that were vague or uninterpretable (e.g., *consequences* and *environment*). In addition, informants occasionally listed items at different levels of contrast, rendering them non-comparable. If, for example, informants had been asked to list the kinds of animals that live in rivers and some listed *trout* but others listed *fish*, the level of contrast differs as trout are a kind of fish. Analogously, some informants listed *bad attitude* while others listed *psychological*. We eliminated the latter as informants also listed other kinds of psychological issues at the same level of contrast as *bad attitude*, such as *not in the mood* and *lack of willpower*. Combining duplicates and items that were restatements of the question, were vague, or could not be interpreted reduced the list to 60 items.

We then reduced the length of the list to 14 by removing infrequently mentioned items. We chose to retain items mentioned a minimum of 4 times because the number of times particular items were listed declines very steeply until reaching four at which point the decline levels off with many items listed only once or twice. Table 3 below indicates the 14 constraints retained, how frequently they were mentioned, and their salience in terms of Smith's *S*, a measurement that ranges from 0 to 1 based on item frequency and where it appears (first, fourth, etc.) in lists (Smith, 1993).

Table 3

Frequencies and salience of 14 Leisure Constraints Free Listed in Six Taiwanese Cities (N = 182).

Item ID	Constraint	Frequency	Smith's S
1	Lack of time	102	0.425
2	Lack of money	95	0.372
3	Work	59	0.245
4	Poor physical condition	33	0.107
5	Family	26	0.103
6	Poor health	22	0.082
7	Lack of companions	17	0.060
8	Lack of facilities	12	0.037
9	Too lazy	11	0.040
10	Kids (child care)	11	0.035
11	Age (too old)	7	0.027
12	Lack of interest	7	0.026
13	Lack of transportation	5	0.016
14	Too tired	4	0.017

Correspondence Analyses

In order to conduct the correspondence analysis (CA), we created a rectangular data matrix where the columns consisted of informants grouped by gender and age, that is, females aged 18–34 years, 35–50 years and 51–72 years and males aged 22–34 years, 35–50 years and 51–90 years. Rows consisted of the 14 constraints shown in Table 2 while cells indicated constraint frequency counts for each of the groups. As Weller and Romney (1990) indicated, the first issue with CA is whether there is, in fact, some association between rows and columns of the data matrix or whether they are independent. This can be tested using the chi-square statistic (for this analysis, χ^2 (65) = 84.998, p = 0.049). Therefore, the independence model can be rejected at the 0.05 level. Dimensions 1 and 2 accounted for 33.7% and 25.3% of the total inertia (59.0%) respectively. The CA biplot is provided in Figure 1 below.
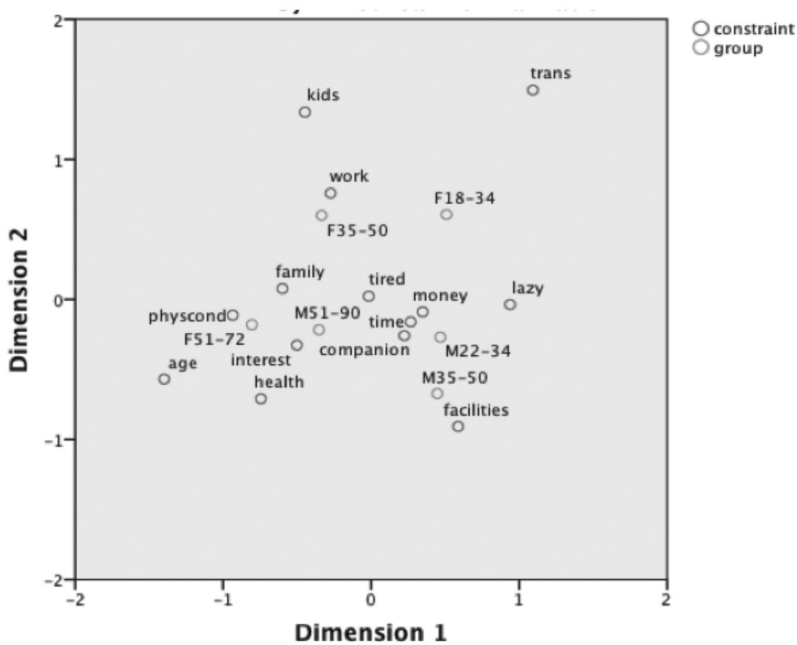

Figure 1. Correspondence analysis biplot of the frequency of responses to the constraints question by informant age and gender.

CA biplots can be evaluated in several different ways. Where each of the variable values falls along the horizontal and vertical dimensions can be shown by drawing horizontal and vertical lines through the origin (the constraint *tired* is located almost exactly at the origin in Figure 1) and then connecting plotted items perpendicularly to those lines. Dimension 1 for the gender and age variable is clearly related to age. From left to right, the plot indicates females 51–72 years, males 51–90 years, females 35–50 years, males 35–50 years, males 22–34 years and females 18–34 years. Dimension 2 distinguishes the genders. The bottom to top of the plot aligns males 35–50 years, males 22–35 years, males 51–90 years, females 51–72 years, females 35–50 years, and females 18–34 years. Thus, informants' age and gender were associated with the frequency in which they free list leisure constraints.

Constraint items related to age and health cluster at the negative end of dimension 1 in the same direction and a similar distance from the origin as the gender-age points for older informants. *Time*, *money*, *transportation* and *facilities* are at the positive end of the first dimension and are associated with younger age groups. *Lazy* and *companions* are also positive on dimension 1, but close to the origin, thus contributing little to the variation on that dimension. These results indicate that older informants were more concerned with age and health-related constraints while younger informants were more concerned with resource-related constraints

The interpretation of the constraints ordered by dimension 2 is somewhat more complex. Because we used symmetrical normalization in our analysis, it is possible to consider row and column points jointly by examining their relationship along vectors drawn from the origin (again, very near the location of *tired*). These can be evaluated in terms of both their direction and their length. Points that lie near the origin account for little of the inertia while those farther from the origin account for proportionately more. A vector to *kids* passes very close to *work* and *F35–50* (female, aged 35–50 years). So, kids and work were frequently listed constraints for women in this age group. A vector to *trans* (i.e., *transportation*) passes very near *F18–34* (females, aged 18–34 years) indicating that transportation constraints are a concern for this group. A vector from the origin to *facilities* suggests that facilities are important to men between the ages of 22 and 50 years while *companions*, *time* and *money* are somewhat less important because the vectors to these points are shorter and therefore account for less inertia.

Discussion

If the field of leisure studies is to break out of its ethnocentric mold, research on leisure in all of its manifestations from societies around the globe is necessary. Free listing is an effective method of eliciting group-specific leisure constraint items that can be accomplished quickly and at low cost for relatively large samples of individuals. It can be done individually or in groups (it required about 12–15 minutes with a group of 15 individuals). While free listing is most often used to produce lists of the content of cultural and/or cognitive domains for use in later data collection, we have shown how lists can also be analyzed in their own right. More important, the list of leisure constraints we examined in this paper is appropriate for additional research in urban settings in Taiwan since informants from that cultural context produced it.

As with many other constraint studies, we found lack of time and lack of money to rank first and second among the items listed by our informants. It may be that constraints in developed, urban areas of the world are very similar but, until we actually do descriptive research in areas outside North America, we cannot be certain of that. Additionally, since free listing permits evaluations of salience, researchers can easily determine the degree to which informants in different contexts or from different demographics weigh particular constraints. In our study, *family* and *kids* (child care) were highly salient. We did not collapse once-mentioned items such as *parents*, *spouse*, *boyfriend* and *girlfriend* into the more general category *family*. Had we done so, *family* would have been the fourth most frequently listed constraint. Family-related constraints may exacerbate other constraints such as lack of time, being too busy, not enough sleep and not being in the mood. Family-related constraints and constraints related to the influence of others may also be more salient and consequential in collectivistic societies, such as Taiwan, than in more individualistic societies, such as the United States. Individuals do not make decisions about leisure, leisure constraints, or anything else in a cultural vacuum.

In addition to providing a culture-appropriate list of leisure constraints, our results suggest several things about constraints in the urban Taiwanese cultural context. Older informants ap-

peared to be more concerned with health- and age-related constraints while younger informants felt that resource-related constraints were more problematic. We could have included other variables, such as informants' income, education level, marital status, or the city in which the data were collected. Doing so would have substantially increased the complexity of the CA output, thereby making interpretation more difficult. Nevertheless, researchers can easily add other variables of concern when collecting free listing data.

Researchers who wish to use free listing should consider several issues based on our experience. First, we primarily employed written free listing because our informants were literate. However, for informants who are illiterate or unable to read due to vision problems, oral free listing is recommended and is very easy and efficient (Quinlan, 2005).

Second, the fact that all of our informants were urban residents is a limitation. While we did not systematically exclude anyone from our sample, other than individuals under the age of 18, we suggest that future researchers in Taiwan and elsewhere might focus on other groups. These could be rural, as well as urban, or based on ethnicity or other subcultural markers.

We did not employ other ethnographic methods, such as key informant interviews, focus groups or participant-observation, all of which can be used in conjunction with free listing. We believe, nevertheless, that free listing provides high quality data that can be used in the development of other research instruments or analyzed in their own right.

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