

THE USE OF THE SUCCESSIVE PILE SORT IN AN ETHNOGRAPHIC STUDY OF A SHELTER FOR BATTERED WOMEN

Penelope A. Wong
Department of Anthropology
Northern Arizona University

Ethnographic data is often regarded solely as qualitative data. Very often, however, quantitative techniques can serve to illuminate patterns and themes in the ethnographic data which would be ordinarily missed. In this paper a formal data collection technique, the Successive Pile Sort, is introduced. Its application to ethnographic data of battered women and its representation through the quantitative technique of multidimensional scaling is discussed.

A Historical Perspective of Wife Abuse

Throughout history and societies all over the world, violence towards women, particularly wife abuse, has been an accepted cultural precept which has been ignored until the latter part of this century (Okun 1986; Sigler 1989). Extensive literature addressing wife abuse can only be found in the United States, Great Britain, and Canada (Gelles and Cornell 1983). Only within the last decade have anthropologists and researchers from other disciplines begun to explore this phenomena in non-Western countries. Even in the United States the majority of literature concerning wife abuse has been published mainly within the last two decades.

Interest in domestic violence resulted primarily because of two factors: the resurgence of the feminist movement in the 1970's and the initiation of laws protecting the rights of family members. The once private family domain could now be viewed and governed by the public sphere (Stets 1988). The term "wife abuse" as used in this paper denotes a woman who experiences violence within the context of a conjugal or cohabitating relationship.

At the time of my fieldwork, the literature revealed that anthropologists in the United States had done little work in the area of wife abuse. I hoped, therefore, that my ethnographic

study would be of value in better understanding this problem in order to end it.

Background Information

All the information used here, as mentioned previously, is derived from fieldwork conducted at a shelter for battered women. During the period of fieldwork, I observed, participated in various activities, talked with the women who were residing at the shelter, and did just about everything they did except live there. As a result, I collected much information about women who were forced to take refuge at the shelter for protection from domestic violence. Most of my information took the form of narrative and was composed of my observations, interviews with informants, and literature concerning domestic violence. It was during one of my interviews that an informant helped me to realize the need for a quantitative technique to supplement my qualitative data.

Tina, one of my key informants, made the following comment during an interview:

The shelter has helped me to learn and the groups
have helped me to learn that I need to to do for myself
first, anything and everything else second.

(Tina, a battered woman)

When Tina made this observation she was essentially telling me that she organizes her reality or existence in such a way that she comes first and everything else is second. I tried, literally, to envision what she meant. What kinds of items and values would be close to her, which ones would be far from her? These questions remained unanswered until Tina and other battered women did a Successive Pile Sort of items and values that they either cared very much about or were integral to their lives. After taking the results of the Pile Sort and applying the statistical technique of multidimensional scaling, I acquired a concrete representation of how she and other battered women viewed life and perceived the world around them.

I wished to examine two aspects of the lives of battered women through the Successive Pile Sort. First, I was interested in their perception of reality and how this technique might reveal a cognitive pattern in the battered women (Freeman, Romney and Freeman 1986). Second, few battered women have the opportunity to exercise or display any control over their own lives. How does this fact affect how they view the world around them? I hoped to discern patterns that showed how the notion of control and/or force shaped their lives.

A Brief Lesson on How to do a Successive Pile Sort

Before administering the Successive Pile Sort, I familiarized myself with the technique in order to carry out smoothly the procedure with informants. A brief description of how to do a Successive Pile Sort using the same stimuli used in the fieldwork is provided. For further detailed information on the Successive Pile Sort, please refer to Boster (1986b) or Romney and Freeman (1982) and Appendix A.

Thirty-two items or values served as stimuli in the set. Each of these items or values was relevant in some way to the group of women serving as my informants. (How these particular **items** were chosen will be addressed subsequently.) Each of these **items** was then written on an index card. On the back of the card a letter of the alphabet for identification was also written. Since there were thirty-two items in a complete set, lower case letters of the alphabet **had** to be used after the twenty-sixth item. Another set of blank **index** cards was then numbered one to thirty-two. A complete set of stimuli cards for a Successive Pile Sort procedure consisted, therefore, of stimuli cards with a uniquely corresponding alphabet letter and another set of numbered cards. There was one numbered card for each item in the set. In this case there were thirty-two items, so there were thirty-two consecutively **numbered** cards.

The next task was simply to have the informants sort the stimuli cards into various piles. It should be noted that there are variations in the procedure at this point. For example, I chose to administer the unconstrained top-down sort version of the Successive Pile Sort (Boster 1986b)

because then the informants were not restricted in any way as to how they sorted the various items. In some versions of the Successive Pile Sort, the informant is only allowed to make two piles. In the unconstrained version, the one used with the women, they were allowed to make as many piles as they wished *and* include as many items as they wished in each pile using any criteria they saw fit.

Most of informants made, on their initial sorting of the stimuli, four to five piles on the average. There were also some women who made many little piles with only a few items per pile and some women who performed the exact opposite procedure and made only one or two piles on the initial sort with all the items in these two piles. Once the women were satisfied with their piles of items, they were asked why they chose to group certain items **together**. Careful notes were taken on the information given. I then asked them if they wanted to change anything, such as move a particular item from one pile to another, create another pile or combine two or more piles etc. Once they were satisfied, the piles were **counted** and the informant was then asked which piles she would join if she had to make (N-1) piles. At this point an index card representing (N-1) would be placed between the piles. This process would continue until all the piles were separated with a numbered index card between them.

The card would be placed after the last item of one pile and before the first item in the adjacent pile so there would be a number between two item cards. Once the piles were separated, the informant was asked to go back to all the original piles and split one of the piles in order to make (N+1) piles. This process would continue until each item was separated from another by a numbered index card, or *each* item formed a pile onto itself. I then record the sequence of items (as identified by alphabet letters) and the numbers. I also **made** sure I had notes on how the informants went about splitting the piles. Very often, however, the informant doing the Successive Pile Sort volunteered this information on her own. Once the data were collected, they were entered into a computer program, ANTHROPAC 2.6 (Borgatti, 1989), and the **results** were analyzed through multidimensional scaling.

Why Use a Successive Pile Sort in an Ethnographic Study?

The rationale behind employing this technique is almost as important as the technique itself. The Successive Pile Sort can not be appropriately used to analyze every kind of ethnographic data. By using this technique and expressing it through **multidimensional** scaling, there is an assumption that there is an internal structure to the items or stimuli being sorted. In the minds of the informants, the items being sorted are related to one another in **some** way. The Successive Pile Sort serves to *reveal* the relationship among these items in a way that may not have been previously obvious or conscious to the informants or ethnographer.

In the case of the shelter women, I had to make sure I had items that were relevant to them. Information that was collected from interviews, observations, and other events served as the source for the initial set of items constructed for the Pile Sort set. In addition, I had the women do a free listing (Weller and Romney 1988). I told them to write down the most important items, people, values or "things" in their life, the "things" they were most concerned about. Using these two pieces of information, the free listing and ethnographic data, I was able to construct the items for my Successive Pile Sort. Each of the items were reflective of some aspect of a cultural domain within the shelter. Once the stimuli set was constructed, the only task left was to administer it to my informants. Administering the Successive Pile Sort to the women was easy. It was not terribly complicated and *all* the women who participated found the technique "very interesting and fun." This point was important because a negative experience with the Successive Pile Sort may have jeopardized future research. Besides the informants, the counselors also liked this exercise. It seemed to involve some therapeutic benefits for the women, because they would discuss why they piled certain items together and kept some separate.

Besides the advantages enumerated above, this technique also holds other benefits from a **research** perspective. **The** Successive Pile Sort can utilize a relatively large number of items (Perchonock and Werner 1968), as opposed to other ethnographic techniques, such as the triad

technique. This technique has also been proven to be quite informative *and* reliable in terms of consistency among informants (Roberts, Golder and Chick 1980). Finally, although all my informants were literate, or at least literate enough to understand the items on the cards, this technique could be potentially used with non-literate people. At one point during my fieldwork I did consider the possibility of administering the Pile Sort to the children in the shelter. In that case picture cards instead of word cards would have been used.

Analysis of the Results

Once the data from twelve women was collected, it was analyzed through multidimensional scaling. Very simply, this quantitative technique measures the similarity between the items and translates this similarity into distances in euclidean space. In other words, distance can be also viewed as a measure of similarity, the more similar the items the smaller the distance between them and the more different the items the larger the distance between them.

Anything beyond a brief description of multidimensional scaling is beyond the scope of this paper. Burton and Romney, however, provide an excellent description of multidimensional scaling with respect to its application to sorted data.

There are several computational procedures for multidimensional scaling. They all begin with a matrix of similarity measures and produce a set of coordinates for the objects. Scaling can be done for a space of any dimensionality. Ordinarily, the researcher does scaling for the same data in several different dimensions and uses two criteria to choose the **best** result. These are (1) the pattern of goodness of fit of the original similarity measures to the distances among objects in the multidimensional space and (2) the interpretability of the resulting configuration. (Burton and Romney 1972:399)

Goodness of fit, also known as "stress" improves as the number of dimensions increase.

This is a characteristic of multidimensional scaling. Therefore, as the number of dimensions increase, stress decreases. The only problem is that beyond three or four dimensions, the resulting configuration is often very difficult to interpret.

The multidimensional scaling of the data from the battered women achieved a final stress of 0.231 which is "fair" according to Kruskal's Formula 1 Stress Coefficient (Kruskal and Wish 1978). While I did attempt to lower the stress by analyzing the data in three dimensions, this option did not work. The data was virtually unintelligible in three dimensions.

All the data from the Successive Pile Sorts were combined and expressed in two dimensions a horizontal one as in Figure 1. and a vertical one as in Figure 2. Each of these dimensions will be separately discussed.

Figure 1. illustrates the first dimension, the horizontal one. In moving horizontally across the scale, there is a clear change in the quality of values and items. The values and items change from frivolous ones to more serious ones. On the left side of the scale, one finds the values or items, "adventure," "excitement," "fame," and "material items." In the middle of the scale the items are less superficial, "freedom," "place to live," "money," "freedom" and "future." Finally, on the right side of the scale there are very serious items, such as "honesty," "happiness," and "communication," "values," and " understanding oneself."

The horizontal direction illustrates a clear tendency for the women to separate those items, values, or beliefs which are important to them from those which are trivial or frivolous. It is also interesting to note that the items on the right side of the scale are the ones necessary to a healthy relationship with one's partner or spouse while those on the left side are not. It was not an accident then that my informants were explicitly addressing those items and values on the right side of the scale in their individual and group therapy sessions. Items such as "communication," "happiness" and "understanding oneself" all seem to be issues that battered women have trouble understanding. Mary, another woman I came to know, is proof of this fact.

I just want to encourage more women who should come to

MULTIdimensional Scaling Dimension 1

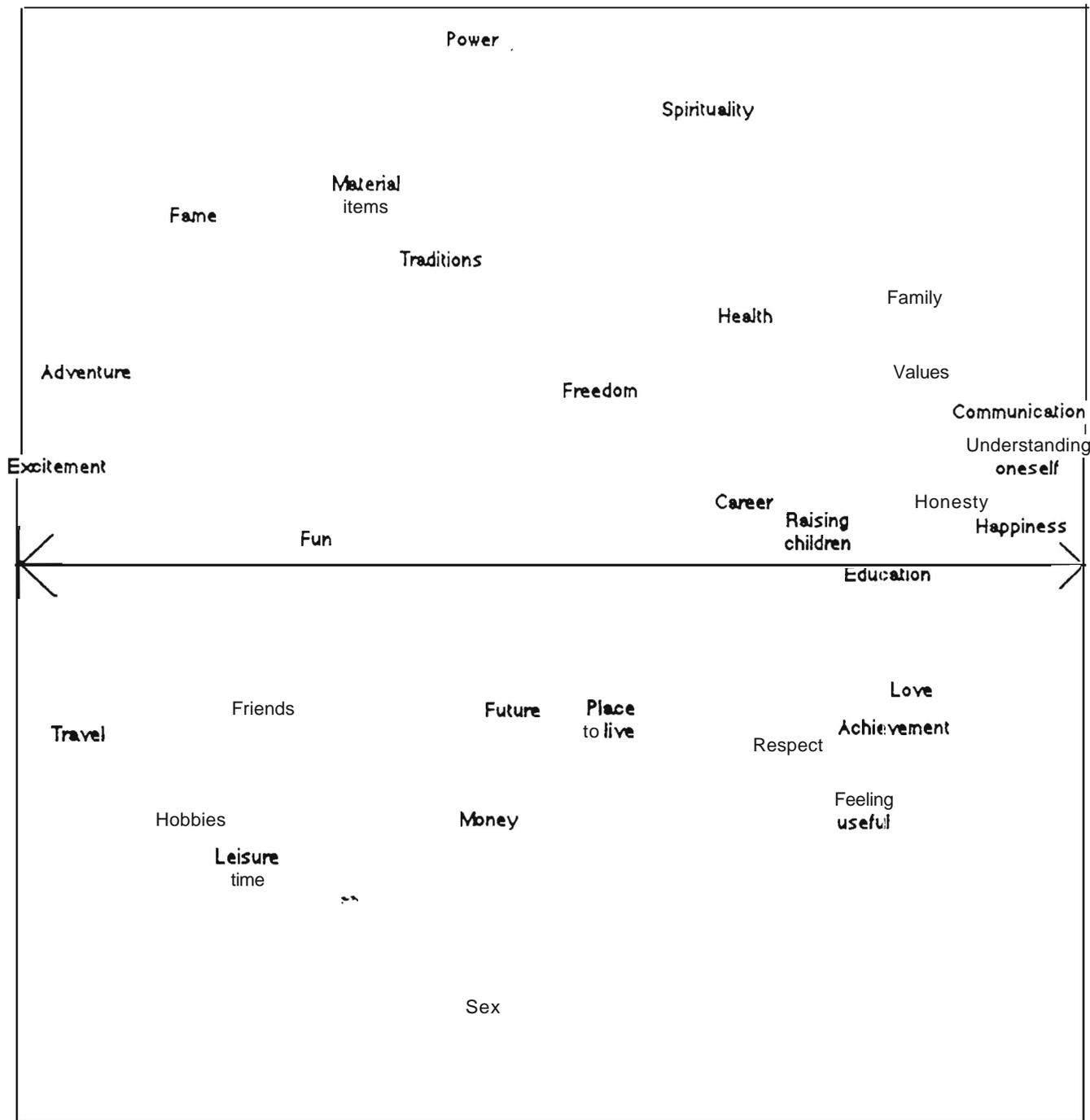


Figure 1.

this place . . . I feel like I grew up a lot, got more information and I know how to deal with [my boyfriend], if he should come around and start putting me down, or making me feel guilty, I know what to say now, and I know how to protect myself.

(Mary, a battered woman)

Finally, the items on the right side of the scale are all empowering values or items which will allow a woman to take control of her own life once she understands how to use them.

Figure 2. illustrates the second dimension, the vertical one. This dimension is more difficult to interpret than the first one and may account for the relatively high stress. While in the first dimension there was somewhat of a continuum present, the vertical dimension seems to represent a binary scale. Many items which are on the bottom part of the scale seem to have opposite "counterparts" at the top of the scale. The obvious ones are "money" and "spirituality" which are linked to materialism versus non-materialism. "Leisure time" and "excitement" are in contrast to one another in that the former one implies relaxation while latter one implies energy. "Future" and "traditions" are in contrast in that the former implies change while the latter implies conservatism or no change.

Some of the less obvious contrasting items are "power" and "sex." This particular pair is interesting in that one of the characteristics of an abusive relationship is the use of "sex" as a means of "power" or control, such as in the case of conjugal rape. In a healthy relationship these two items would not be opposite one another because sex would not be used as a weapon or as a means of exerting power. Only in abusive relationships, does power translate into force or control and sex translate into submission or victimization. Therefore, in light of the ethnographic data, this pair of items is highly revealing.

Another subtle contrasting set of items includes "health" and the cluster of items "love, achievement," "respect," and "feeling useful." "Health" usually refers to physical health while the other cluster of items are often linked with one's emotional or psychological health.

MULTIdimensional Scaling: Dimension 2

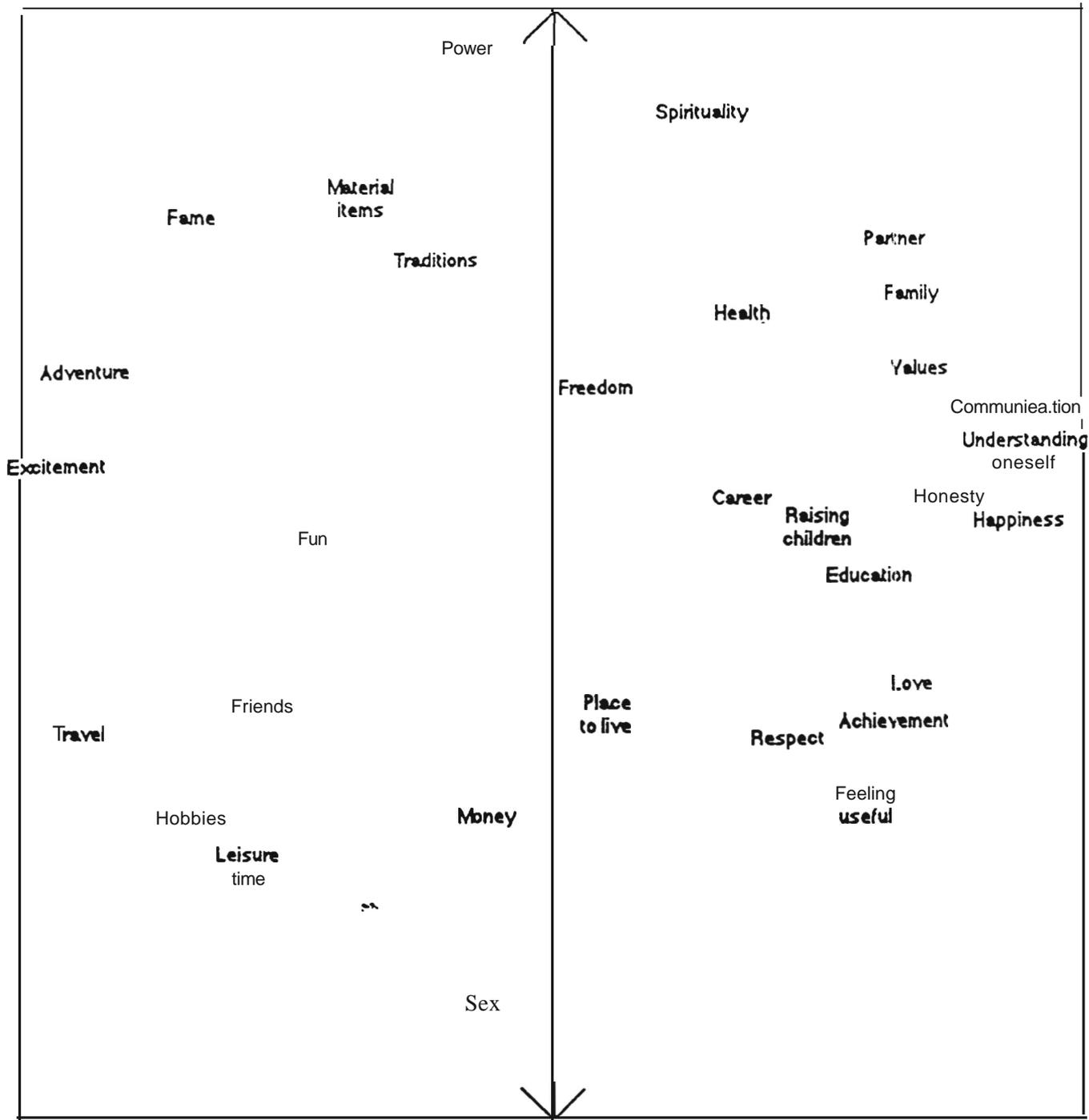


Figure 2.

Finally, there are number of items and values which fall in the middle of the scale, such as "fun," "raising children," "education," "honesty," "happiness," "understanding oneself," "communication," and "values." These *middle* items and values seem to mediate those on the upper and lower ends of the scale or to somehow balance them out. For example, a "career" would allow one to have "material items" and "freedom," items at the top half of the scale, but these items imply a sense of fleetingness. In contrast, a "career" will also ensure a "future" and "money" which are both located on the lower half of the scale and imply a greater sense of security.

When Mary makes talks about her future she includes many of the items and values or aspects of them found in this "middle level".

My future now is to get my GED. First, I got to figure out who will take care of my kids while I am at school. I'll be going back to school plus having my job, but they have night classes in GED. I want to get my GED . . . I've always wanted to become either a pediatrician or a cosmetologist.

(Mary, a battered woman)

"Understanding oneself," "communication" and "honesty," are necessary in understanding the balance between the items, "power" and "sex" and the items, "partner" and "love." In fact these last four items are precisely the reasons why battered women are in the shelter. They don't understand how these values items should work in relationship to one another.

The second dimension reveals an interesting cognitive pattern in the minds of the women. The contrasting sets of items and values on the extreme ends of the dimension may suggest that the women view the world from a "black and white" perspective. They perceive the world in terms of extremes. Situations are either in one state or its alternative state. **If** most battered women, such as my informants, do see the world in this way, it is not surprising. The lives of battered women are characterized by extremes, extremes in emotional states and physical states. They are either controlled or not controlled, they are either abused or not abused. They don't

know how to handle the "gray" areas of life. Many of these "gray" areas require social skills, such as negotiation and communication that many battered women do not have. As a result, they swing from one extreme to the other. When they finally learn how to communicate and attain an understanding of themselves they will be better able to balance the extreme situations in their lives.

Conclusion

The application of the Successive Pile Sort to ethnographic data concerning wife abuse proved to be very informative. On one dimension, informants were clearly differentiating between items or values of importance versus those that **were** not as relevant to their lives. On the second dimension, the battered women revealed the complexity involving the relationships of certain items or values in their lives.

While multidimensional scaling of the items sorted through the Successive Pile Sort was illuminating, it only made sense within the context of the other ethnographic data. The interviews with the women and the initial observations I made generated the relevant items to be sorted. Later, the multidimensional scaling of these sorted items confirmed and supplemented the qualitative ethnographic data. It is this reciprocal relationship between these two data gathering techniques which made the Successive Pile Sort technique such a useful tool.

Notes

Acknowledgements. Gratitude is expressed to Michael Vasquez for reviewing this manuscript.

References Cited

- Borgatti, Stephen
1989 ANTHROPAC Computer Program 2.6. University of South Carolina.
- Boster, Jim
1986 The Exchange of Varieties of Information Between Aquaruna Manioc Cultivators. *American Anthropologist* 88:428-436.

1990 The Successive Pile Sort. Directions for doing the Successive Pile Sort presented to a research seminar at Northern Arizona University.
- Burton, Michael and Kimball Romney
1975 A Multidimensional Representation of Role Terms. *American Ethnologist* 3:397-407.
- Freeman, Linton, Kimball Romney and Susan Freeman
1987 Cognitive Structure and Informant Accuracy. *American Anthropologist* (89) 2:310-325.
- Gelles, Richard. J. and Claire P. Cornell.
1983 *International Perspectives on Family Violence*. Lexington: D.C. Heath and Company.
- Kruskal, Joseph and Myron Wish
1978 *Multidimensional Scaling*. Beverly Hills: Sage Publications.
- Okun, Lewis
1986 *Woman Abuse: Facts Replacing Myths*. Albany: State University of New York Press.
- Perchonock, N. and O. Werner
1968 Navaho Systems of Classification: Some Implications of Ethnoscience. *Ethnology* 8:229-243
- Roberts, J., G. Chick and T. Golder
1980 Judgement, Oversight, and Skill: A Cultural Analysis of P-3 Pilot Error. *Human Organization* (39) 1:5-21.
- Sigler, Robert
1989 *Domestic Violence in Context*. Lexington: D.C. Heath and Company.
- Stets, Jan
1988 *Domestic Violence and Control*. New York: Springer Verlag.
- Weller, Susan and Kimball Romney
1988 *Systematic Data Collection*. Beverly Hills: Sage Publications

Appendix A

Successive Pilot Sort

The successive pile sort is the best method to use for tree structured domains with less than 50 items, particularly when one wants to compare the responses of different informants. In this task, informants begin by sorting the items as they would in an ordinary free pile sort. They are then asked to merge their piles until *all* piles are JOINED. Then they are asked to split their original piles until *all* items are SEPARATED. Although this method appears complicated at first, informants find it relatively straightforward and it has some important advantages, as discussed below.

To do a successive pile sort you need a collection of **STIMULI** and a set of **NUMBER CARDS** with the numbers 1 through [the total number of items] minus one. If there are 25 items, then you need 24 number cards. Each stimulus item should have associated with it a capital letter of the alphabet as an identifier. If there are more than 26 items, lower case letters may be used as identifiers of the next 26 items. This program allows up to 52 items which is about all informants can reasonably handle with this technique. We illustrate the method with an example of 25 cards, each with the **name** of a bird. Begin by laying the stimuli in random order in front of the informant and say something like the following:

"Here is a set of 25 cards, each with the **name** of a different kind of bird [or whatever domain you are studying]. Please sort them into piles according to which birds you think are most similar to one another. You can sort them according to whatever characteristics of the birds you like and into as many piles as you like."

After informants have finished the sort, leave the stimuli as they are and record the **NUMBER OF PILES**. This number of initial piles is the number "N" throughout these instructions. Next say:

"Now please tell me which of these PILES of birds (or whatever) are the most similar to one another? That is, if you could only make [N-I] piles, which piles would you join together?" [For example, if the informant made 7 piles, ask them which of the 7 they would join if they had to make only 6 piles.]

Take the piles that the informant indicates as being most similar and move them next to each other, if necessary. Place the number card [N-I] between the pair of piles the informant says that he or she would join. Now say:

"Treating the piles you have just joined as a single pile, NO\V which piles of birds would you join?"

Place the number card [N-2] between this pair of piles. Again, move the piles around if necessary. Continue this process until there are only two piles and place the number card 1 between them. Now say:

"Returning to your original piles, split the pile that contains the birds that are most different from one another. That is, if you had to make [N + 1] piles, which pile would you split and HOW?"

The informant has almost as much freedom in choosing how to split the piles as she or he has in the initial sort. For example, although an informant can only split a pile into two, he or she may choose to split a pile with 6 items into piles of 1 and 5, 2 and 4, or 3 and 3. Place the number card [N] between the piles that have just been split apart and say:

"Again, split the pile that contains the birds that are most different from one another. That is, if you had to make [N + 2] piles, which pile would you split? "

Place the number card [N + 1] between the pile that is split. Continue this process until there is only one pile remaining to be split and place the number card 24 (25 items - 1) between the remaining two items. You should now have a sequence of items (stimuli) and number cards that alternates: item, number card, item, number card, ... item. Record the informant's successive sorting of the items by writing down the sequence of item identifiers (letters of the alphabet) and the numbers on the number cards (e.g., B 2 A 4 D 1 F 3 E 5 C).

The strengths of the successive pile sort are: 1) informants' responses are comparable to one another since the same amount of information is extracted from each informant; and 2) a complete binary tree is elicited from each informant., so one can reasonably construct a representation of the responses of a single informant., either in a tree diagram or an MDS. The weaknesses are: 1) although the first step is as easy as a free pile sort (in fact, it IS a free pile sort), it is sometimes difficult to explain to informants what they should do next; 2) for similar reasons, it may be difficult to train field assistants to administer the task; 3) informants cannot take the test themselves without supervision; and 4) at the end of a long task, informants may not be able easily to decide which piles to split. Fortunately, this last difficulty has little impact on the results; most of the information is in the first few splits.