
Cognitive Modeling: *Theory and Application*

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Cultural Domains

- Mental categories – the way we organize things in our heads
 - Items in a cultural domain are generally alike in some important ways
 - Classification system that can be represented in space—through clustering and by mapping proximity
 - Not all groups “classify” things in the same way (actual domains may be different and/or the contents of the domain may vary)
 - Cultural domains represent perceptions by group members not individual preferences
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Freelisting

- In our research we need to learn how to ask about things in ways that are meaningful and understandable to the groups that we are working with or studying.
 - A way to figure out how the populations that we are working with define and categorize items
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Freelist Instructions

- Determine what you would like to understand from an “Emic” perspective
 - Construct an easily understood, non-leading question
 - Freelists should contain one word or at most 2-3 word responses
 - Freelists are good for gathering items that belong in a single domain (Food, Animals, Music, Illnesses, Types of alcohol)
 - Determine how to obtain your freelistings
 - In a group setting
 - As part of another activity
 - In writing (by the informant)
 - By having the informant tell you words which you write down
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Freelist Exercise

List different types of alcohol drunk in India

- Don't think very hard—quickly write down what comes to your mind
 - Write one item on each line
 - I will stop you after about 2 minutes
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Freelist Data Entry DOS version of ANTHROPAC

1. Create text file of the freelist items (Identify each person as #1, #2, etc.
2. list their items in the order they gave them to you.
3. Save as a text file. (see example below)

#1

fun

relax

relieve tension

#2

stress

fun

when sad

4. Use Anthropac.

Steps: a. import freelist

b. specify the name and location of data file (saved text file).

c. run

5. Save output which will give frequency and salience.
 6. Use output to combine like items and create final list (25-30 items for pilesort)
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FREELIST EXAMPLE USING SOFTWARE

Dealing with Duplicates

REASONS FOR DRINKING

| Hindi | Marathi | Rank | English | Details | Frequency |
|-------|---------|------|-------------------|----------------------------------|-----------|
| | | 1 | Tension (27) | Tension | 13 |
| | | | | Husband Tension | 1 |
| | | | | High Tension | 1 |
| | | | | Avoid Tension | 1 |
| | | | | Tension mental | 1 |
| | | | | Tension of home | 1 |
| | | | | Tension of others | 1 |
| | | | | Overcome from family tensions | 1 |
| | | | | Tension due to not getting job | 1 |
| | | | | Tension due to not having money | 1 |
| | | | | To release the tension | 1 |
| | | | | To release the mental stress | 1 |
| | | | | Tensions/stress | 1 |
| | | | | Tensions | 1 |
| | | | | To get away from family tensions | 1 |
| | | 2 | Sorrow (14) | Sorrow | 6 |
| | | | | Sadness | 4 |
| | | | | Bad mood | 1 |
| | | | | Sorrow/sadness | 1 |
| | | | | To overcome sorrow | 1 |
| | | | | Forgetting sorrows | 1 |
| | | 3 | Addiction (9) | Addiction | 5 |
| | | | | Habit | 2 |
| | | | | Habit/addiction | 1 |
| | | | | Addiction (lack of self control) | 1 |
| | | 4 | Peer pressure (9) | Peer pressure | 5 |
| | | | | Friends pressure | 1 |
| | | | | Friends | 1 |

Freelist Metrics

- **Frequency**

- How often a word is mentioned. Dealing with:
 - duplicates
 - singular-plural
 - spelling errors
 - different words/terms that are the same

- **Average Rank**

- How soon the respondent recalls a word

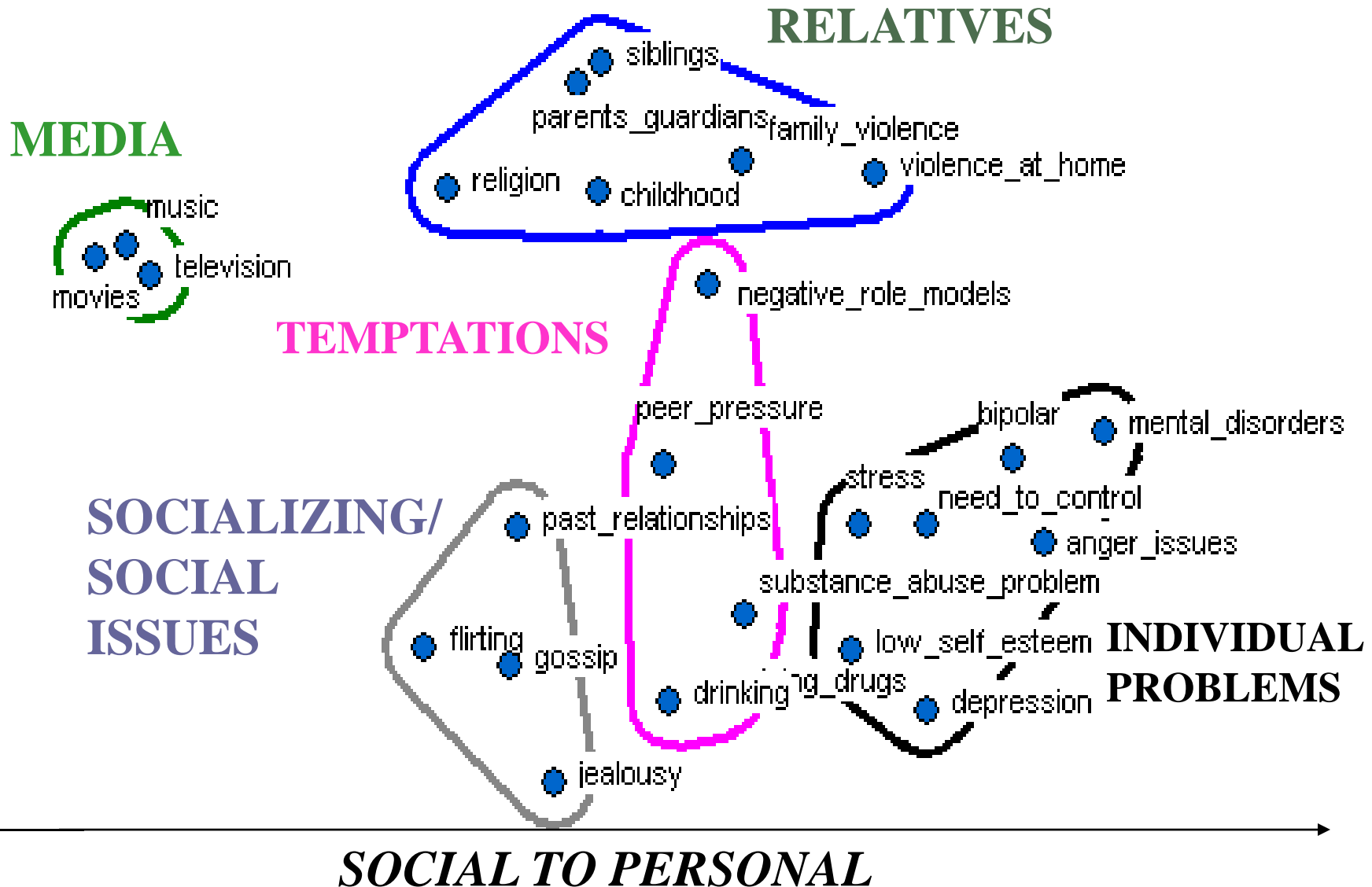
- **Saliency** (Frequency and Average Rank)

- Underlying property
 - combined into a single measure
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PileSorting: A shared mental model (Cognitive Cultural Model)

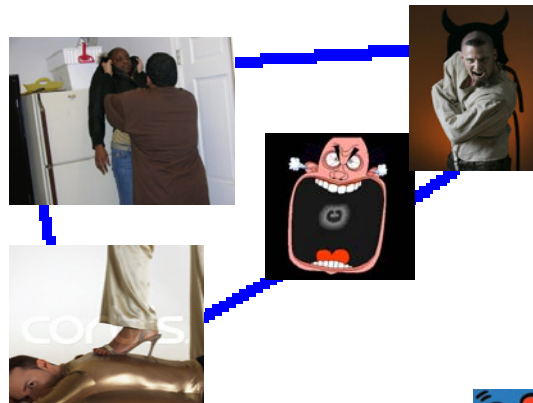
- Once items in a domain are identified, they can be examined for how things are defined, what they mean, how they are related, how they are similar and different
 - Pilesorting offers a method for understanding how groups think about an issue/domain in a way that doesn't require them to answer questions on a survey or in an interview
 - Elicitation technique (stimulus)
 - Can be words or pictures
 - Can be used to tell a story and/or define the most salient features in a given domain
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What Causes Dating Violence?



Causes of Dating Violence in Pictures

Emotional Impact



Anger Issues

Individual, Family, and Group Factors



External Influences that affect family behavior

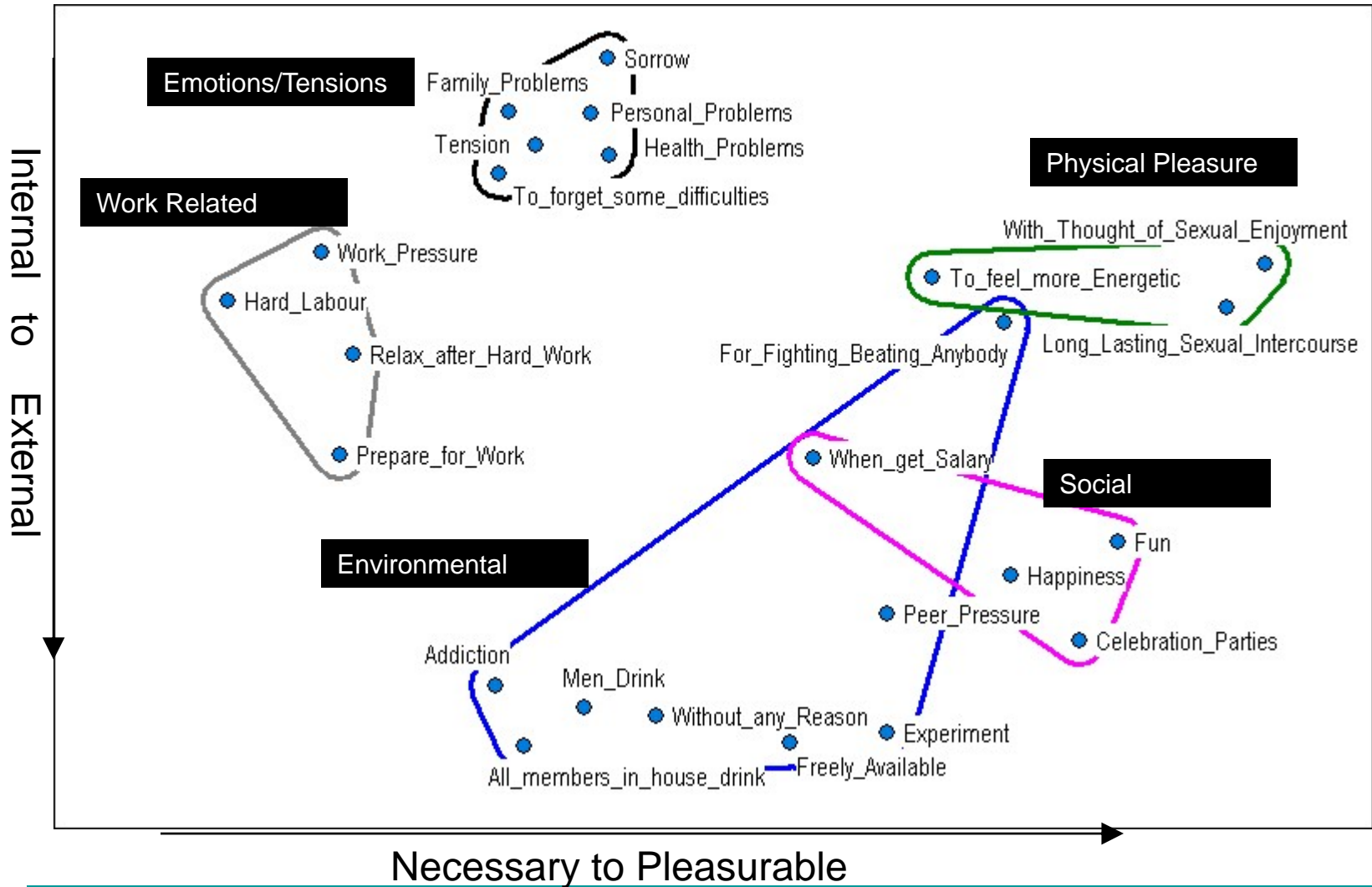
Substance Use and Peers



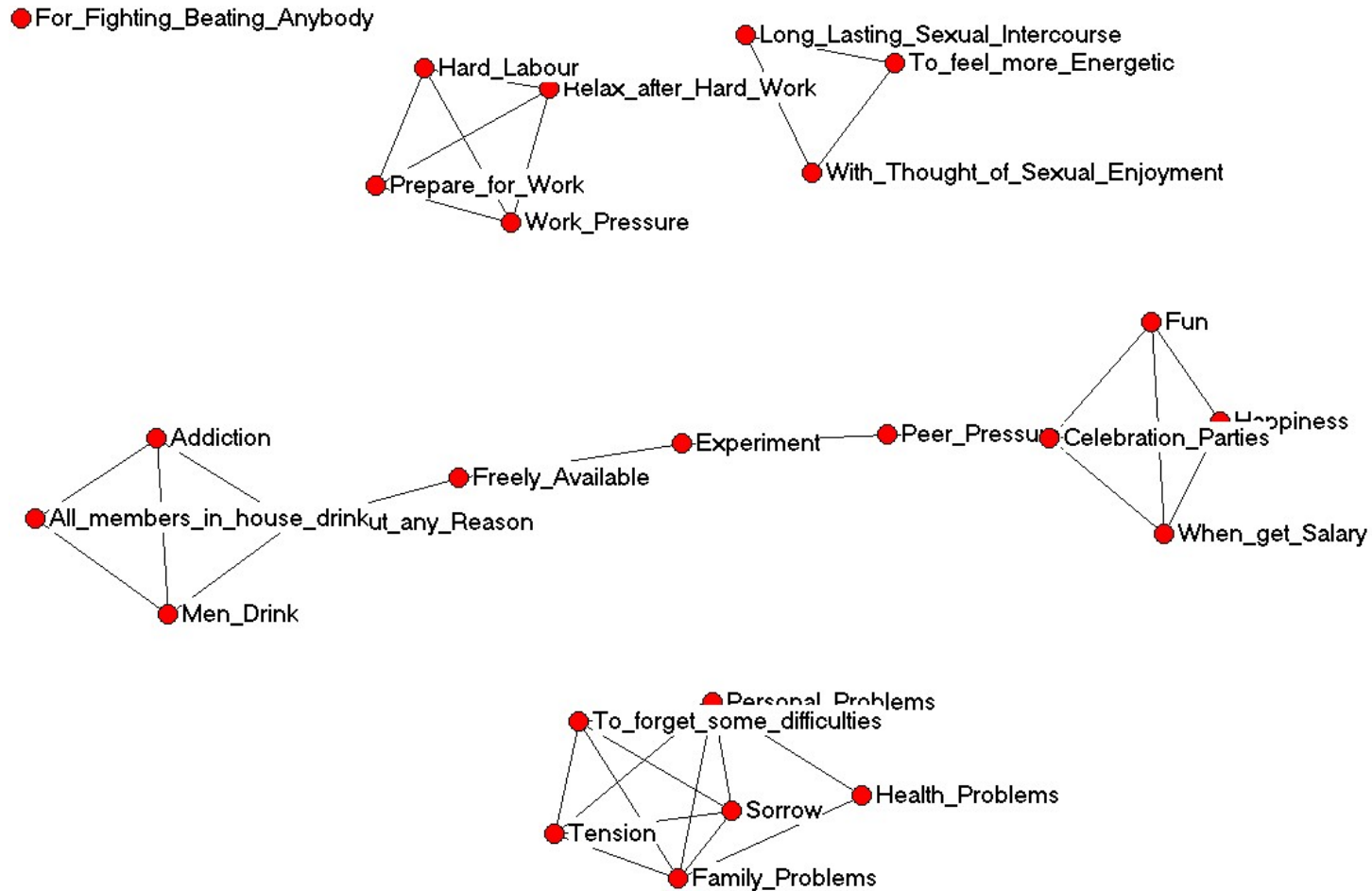
Types of Pile sorts

- **Simple pilesort**: Sort all cards by “what goes with what”. Clusters result from the data
 - **Forced pilesort**: Sort cards into given categories.
For example, a set of 25 cards containing different types of drugs. Respondents asked to pile them by their risk—very risky, moderately risky, not very risky, and not risky at all. Number of clusters are pre-determined.
 - **Successive pilesort**: Cards put together one at a time and then disaggregated one at a time. Uniform constraints. Good for certain purposes (e.g. understanding relationships of networks of people in a given place. Sequence of sexual behaviors within a group). Very time consuming—must be administered one on one.
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Why Men Drink



Why Men Drink – Pile sort into Network



Pilesort Exercise

These 25 cards represent causes of dating violence

- I would like you to put the items in this sort together based on “what goes with what”

 - Only 2 rules:
 1. You can not put all 25 in a single pile.
 2. You can not make 25 piles with only 1 card each.
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Where born: State: _____ Place: _____ Type Place: Urban Rural Other

Sex Male Female Age _____

Religion _____

| Pile Number | Numbers or letters in the Pile* | What the Pile has in Common |
|-------------|---------------------------------|-----------------------------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |

*Separate numbers with a comma [,]

FileSort Data Entry for DOS version of ANTHROPAC

1. Enter pile sort data into text files (use instructions for data entry)
2. Create label file (text only in order). Copy the list to a separate file and add numbers (codes). Save this file which can be used for labels to be put with MDS printout.
3. Create text file for why respondent sorted in the way s/he did
4. Create file with respondent characteristics

#P1 = M, 28, Hindu

#P2 = F, 24, Moslem

#P3 = M, 30, Banjera

FileSorting Exercise using ASHRA Data

Data Entry

How results are generated