# Conjoint Analyses in Remote and Low Literacy Contexts
## A Visual and Interview Approach

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## Why Conjoint Analyses?

Used in marketing research since the 1970s. Proliferation of conjoints in political science since Hainmüller, Hopkins, and Yamamoto's 2014 paper.

The goal is to study **preferences** and **attitudes** by singling out the effect of particular attributes in the presence of others in complex decision-making processes:

- **Vote-Choice**
- **Policy Evaluation**
- **Inter-Group and Intra-Group Relations**
- and other attitudinal and decision making contexts ..

# A Typical Conjoint Setup (Hainmüller et al. 2014)

| | Immigrant 1 | Immigrant 2 |
|---|---|---|
| **Prior Trips to the U.S.** | Entered the U.S. once before on a tourist visa | Entered the U.S. once before on a tourist visa |
| **Reason for Application** | Reunite with family members already in U.S. | Reunite with family members already in U.S. |
| **Country of Origin** | Mexico | Iraq |
| **Language Skills** | During admission interview, this applicant spoke fluent English | During admission interview, this applicant spoke fluent English |
| **Profession** | Child care provider | Teacher |
| **Job Experience** | One to two years of job training and experience | Three to five years of job training and experience |
| **Employment Plans** | Does not have a contract with a U.S. employer but has done job interviews | Will look for work after arriving in the U.S. |
| **Education Level** | Equivalent to completing two years of college in the U.S. | Equivalent to completing a college degree in the U.S. |
| **Gender** | Female | Male |

|  | Immigrant 1 | Immigrant 2 |
|---|---|---|
| If you had to choose between them, which of these two immigrants should be given priority to come to the United States to live? | ○ | ○ |

On a scale from 1 to 7, where 1 indicates that the United States should absolutely not admit the immigrant and 7 indicates that the United States should definitely admit the immigrant, how would you rate Immigrant 1?

| Absolutely Not Admit | | | | | | Definitely Admit |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Using the same scale, how would you rate Immigrant 2?

| Absolutely Not Admit | | | | | | Definitely Admit |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| ○ | ○ | ○ | ○ | ○ | ○ | ○ |

# Conjoint Analysis Results (Hainmüller et al. 2014)
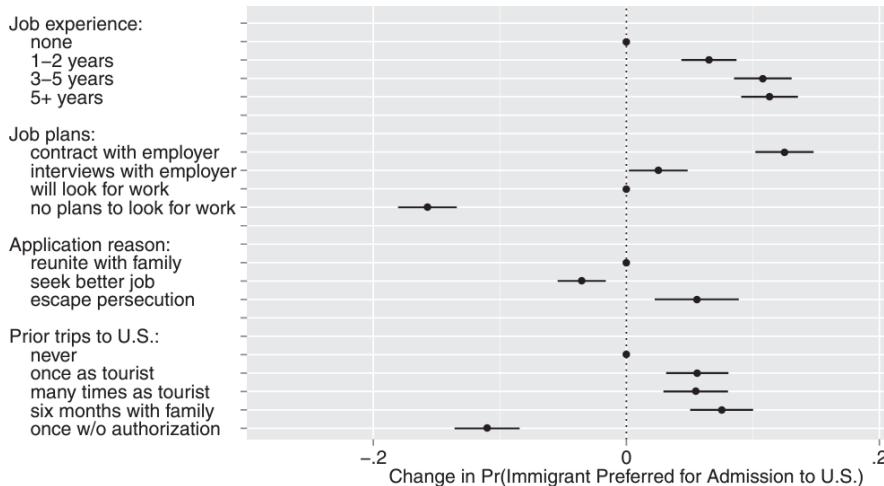


Figure: *AMCEs of 4 attributes from the study*

- Lack of digital infrastructure for online conjoint surveys
- Apprehension and skepticism toward digital devices used by outsiders
- Limited to no ability to read and comprehend conjoint tables
- Rating on a numerical scale may not translate to the context

- Conduct as in-person survey experiments

- Conduct on paper

- Use Graphics Requiring No Reading Comprehension

- Use context-relevant physical count scales



*Fielding Conjoint Survey with RA in Taloda, May 2023*

# Step 1: The Graphic Design Choices

- The goal is to allow comprehension through visuals while avoiding a bombardment of visual stimuli. Likely only 3 to 4 attributes for a maximum of 6 to 8 images on a page.

- Use context-specific and cultural knowledge to your advantage. **Colours, symbols, and icons** can convey a lot more given the context in which they are used.

- The complexity of these images depends on your attributes. This complexity might also determine whether you use can manage alone, have to use AI tools like DALL-E, or work with a professional graphic designer.

# Graphic Design Choices



Bhils Have A Tribal Cultural
Heritage Which Needs Protection
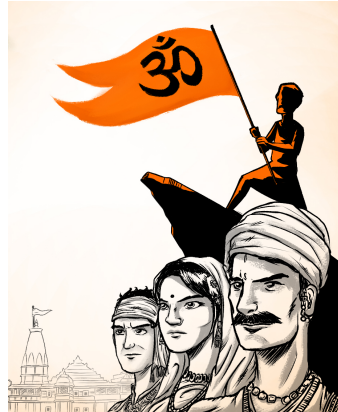


Bhils Have A Hindu Cultural
Heritage Which Needs Protection

# On What Dimensions Can Graphics Differ

- **Actions depicted**
- **Cultural/Political Icons**
- **Choice of Placement**
- **Colours**: Warm vs Cool, Religious, etc.
- **Facial Expressions**
- **Background setting**
- and more...

The point is that the researcher and potentially the graphic designer must be in open communication about what works and what doesn't.

## Step 2: Randomizing Task and Profile Order

- In online surveys using software like Qualtrics, this can be programmed in. More challenging on paper

- You need to give each unique pair of profiles an ID number. Keep a directory of this ID number.

- Randomly assign each respondent number the ID numbers beforehand and save them as a directory you can refer to.

# Directory of Unique Pair Numbers

| Unique Platform Pair Code | Party Platform 1 | | | Party Platform 2 | | |
|---|---|---|---|---|---|---|
| | Attribute 1 | Attribute 2 | Attribute 3 | Attribute 1 | Attribute 2 | Attribute 3 |
| 1. | 0 | 0 | 0 | 0 | 0 | 1 |
| 2. | 0 | 0 | 0 | 0 | 1 | 0 |
| 3. | 0 | 0 | 0 | 0 | 1 | 1 |
| 4. | 0 | 0 | 0 | 1 | 0 | 0 |
| 5. | 0 | 0 | 0 | 1 | 0 | 1 |
| 6. | 0 | 0 | 0 | 1 | 1 | 0 |
| 7. | 0 | 0 | 0 | 1 | 1 | 1 |
| 8. | 0 | 0 | 1 | 0 | 1 | 0 |
| 9. | 0 | 0 | 1 | 0 | 1 | 1 |
| 10. | 0 | 0 | 1 | 1 | 0 | 0 |
| 11. | 0 | 0 | 1 | 1 | 0 | 1 |
| 12. | 0 | 0 | 1 | 1 | 1 | 0 |
| 13. | 0 | 0 | 1 | 1 | 1 | 1 |
| 14. | 0 | 1 | 0 | 0 | 1 | 1 |
| 15. | 0 | 1 | 0 | 1 | 0 | 0 |
| 16. | 0 | 1 | 0 | 1 | 0 | 1 |
| 17. | 0 | 1 | 0 | 1 | 1 | 0 |
| 18. | 0 | 1 | 0 | 1 | 1 | 1 |
| 19. | 0 | 1 | 1 | 1 | 0 | 0 |
| 20. | 0 | 1 | 1 | 1 | 0 | 1 |

The idea is to choose a physical numerical scale that respondents can relate to.



Meyer and Rosenzweig (2016)



Mahajan (2024)

## Step 4: Choosing the Sample Size

- Simulations to determine appropriate sample size using **DeclareDesign.**

- Given the fieldwork limitations, this is likely between **500 and 2000 and more** depending on the number of attributes and levels you have in your conjoint.

- Team of **Research Assistants** and potential **translators** need to be factored in.

- Ultimately, resource and time restrictions limit the sample size.

- Analytic power retained when applied to a **case study** or comparison of two cases.

## Step 5: Administering the Conjoint on the Field

- Door-to-door canvassing or stratified if the list of inhabitants available.
- Can be held in a community office or at the respondent's home.
- The enumerator must read out the statements associated with the image one by one. The idea is that the statements clear and the image is used for recall during the conjoint task.
- The respondent may ask for an image to be explained multiple times during a task.
- The enumerator then physically records the respondent's choice and rating.

The idea here is to validate and triangulate the conjoint findings.

These interviews allow you to do three things:

- **Check Conjoint Comprehension**
- **Report substantive opinions on conjoint attributes beyond the numerical scale**
- **Uncover preferences and motivations that may not have been captured by your attributes.**

Due to time restrictions, it is suitable to conduct this with a **stratified subsample** of your total respondent sample.

These must not be follow-up interviews, but conducted immediately after the conjoint.

# Checking Conjoint Comprehension

- Did you understand the expectations of the task?
- Were you able to recall the statements associated with the images?
- Were the number of images and tasks overwhelming, and did you feel you were considering all options before making a decision? Or was the number of options too few?

# Substantive Opinions on Conjoint Attributes

- How do you feel about X image?
- Was there a particular image that you preferred and that made you rate the profile higher? Any that made you rate the profile lower? Why so?

- Did you feel that these images represent the kinds of attributes that are important to you when you vote? Or did you think they were largely irrelevant to what matters to you in making your decision?
- *Beyond this* the interview can also become a space for an unstructured discussion, where you are able to bring up topics that the conjoint may not have covered, but which you may contextualize with the local and contextual dynamics

# Critical discussion

- On the one hand, an in-person, visual and interview approach allows access to a population which cannot be captured with online qualtrics surveys.
- However, this approach is time and labour intensive.
- Moreover, a lot can go wrong. A pilot study can go a long way in diagnosing issues early on.
- Ultimately, think about the political phenomena and the questions related to them, and whether conjoint analyses would let you answer them.

# Some resources to get you started

- Hainmueller, Jens, Daniel J. Hopkins, and Teppei Yamamoto. 2014. "Causal Inference in Conjoint Analysis: Understanding Multidimensional Choices via Stated Preference Experiments." Political Analysis 22(1): 1–30.

- The Ultimate Practical Guide to Conjoint Analysis in R: Andrew Heiss

- Meyer, Alexander, and Leah R. Rosenzweig. "Conjoint analysis tools for developing country contexts." The Political Methodologist 23, no. 2 (2016): 2-6.

- Poertner, Mathias. "The organizational voter: Support for new parties in young democracies." American Journal of Political Science 65, no. 3 (2021): 634-651.

Thank you for your time! If you would like to follow up you can contact me at *pratik.mahajan@mail.mcgill.ca*



*Conjoint Over Peanuts! with RA in Gurhadpani, May 2023*