THE 9 MULTIS AND 5 COMPLICATIONS

Mark M Pierzchala

MMP Survey Services, LLC

www.MMPSurveyServices.com

MMP@MMPSurveyServices.com

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Sharing your passion for accurate, efficient surveys!

What is the Title About?

We need an accurate description of the challenges of creating modern-day CASIC surveys.

We know about multi-cultural, multi-lingual, and multi-mode surveys, but I have encountered 9 distinct dimensions (the '9 Multis') that impact survey design and execution.

Then there are 5 complications that particularly impact scientific and governmental survey programs.

This presentation is based on one given at the 17th International Blaise Users Conference in October 2016.

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My Point of View

- The next 14 slides show the 9 multis and the 5 complications.
  - Each dimension may cause differences in the fielding of a questionnaire.
  - Each complication may add (a lot of) extra work.
- I'll go through them quickly, just to give you the idea.

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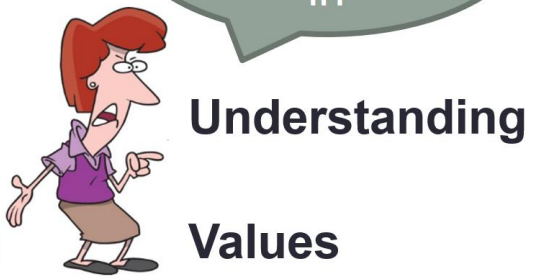
The Challenges – 1 of 9 'Multis'

Multi-Cultural Surveys

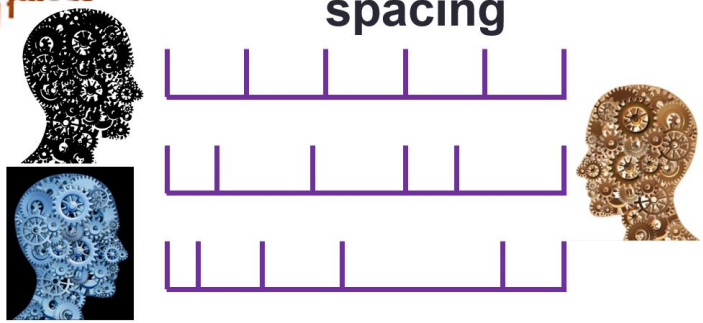


Understanding

Values

Meaning

Scale spacing



But wait!
It gets worse!

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The Challenges – 2 of 9 'Multis'

Multi-Device Surveys

- **Desktops**
- **Laptops**
- **Smartphones**
- **Tablets**

But wait!
It gets worse:

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The Challenges – 3 of 9 'Multis'
Multi-Lingual Surveys

And we have to deal with

- **Translations**
- **Fills**
- **System texts**
- **Alphabetic & Asian scripts;**
- **Left-to-right & Right-to-left languages**
- **Language switching**

But wait!
It gets worse!

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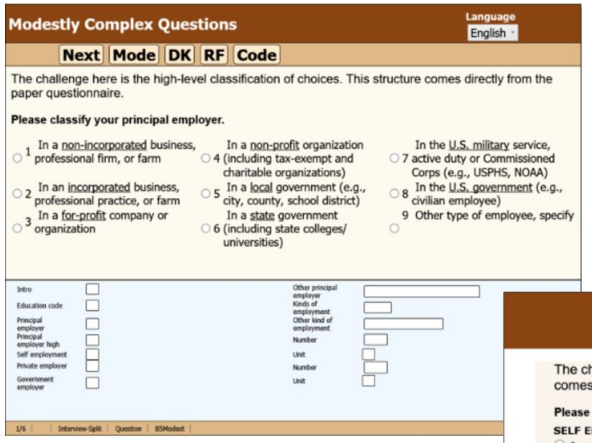
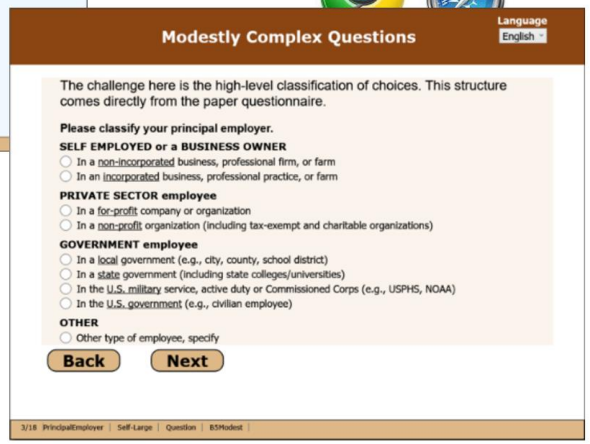
The Challenges – 4 of 9 'Multis'

Multi-Mode Surveys





Don't get me started on modes!

- **Interviewing**
- **Self-administered**
- **CATI**
- **CAPI**
- **Browser**
- **Survey Management**

But wait!
It gets worse:

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The Challenges – 5 of 9 'Multis'
Multi-National Surveys

And countries have their own

Currency

Flags

Institutions

Social programs

Links

Data formats

Please enter your phone number.
( ) -

Please enter your phone number.
+ - - -

But wait!
It gets worse!

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The Challenges – 6 of 9 'Multis'
Multi-Operable Surveys

of your birth?

Number between 1 and 31

Birth month and day
Month
Day

Touch

Gestures

Keyboards

Function keys

Pointing

Scrolling

Screen space

But wait!
It gets worse:

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The Challenges – 7 of 9 'Multis'

Multi-Platform Surveys

Connected

Disconnected

Blocking

Separation of rules from layout

Operating system

But wait!
It gets worse!

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The Challenges – 8 of 9 'Multis'

Multi-Structural Surveys

Please classify your principal employer.

- ○ Self employed or a business owner
- ○ A private-sector employee
- ○ A government employee
- ○ Another type of employee

Were you . . .

- ○ In a non-incorporated business, p
- ○ In an incorporated business, profe

Was that . . .

- ○ In a for-profit company or organiz
- ○ In a non-profit organization (inclu

Was that . . .

- ○ In a local government (e.g., city, (
- ○ In a state government (including s
- ○ In the U.S. military service, active
- ○ In the U.S. government (e.g., civilian employee)

What other kind of employment do you have?

_____

CATI/CAPI

WEB/Paper

Please classify your principal employer.

SELF EMPLOYED or a BUSINESS OWNER

- ○ In a non-incorporated business, professional firm, or farm
- ○ In an incorporated business, professional practice, or farm

PRIVATE SECTOR employee

- ○ In a for-profit company or organization
- ○ In a non-profit organization (including tax-exempt and charitable organizations)

GOVERNMENT employee

- ○ In a local government (e.g., city, county, school district)
- ○ In a state government (including state colleges/universities)
- ○ In the U.S. military service, active duty or Commissioned Corps (e.g., USPHS, NOAA)
- ○ In the U.S. government (e.g., civilian employee)

OTHER

- ○ Other type of employee, specify

Visual vs aural presentation

Answering

Memory demands

Linear vs non-linear cognitive processing

But wait!
It gets worse:

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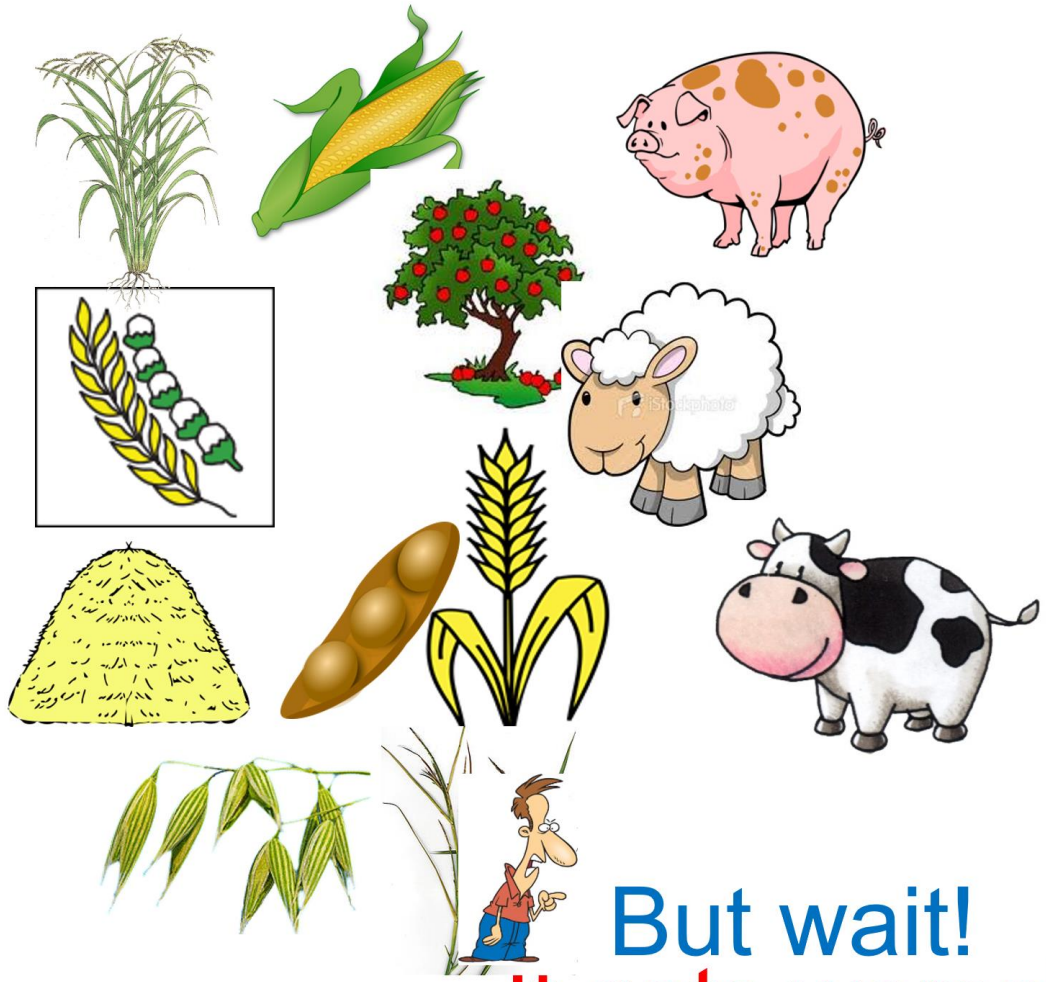
The Challenges – 9 of 9 'Multis'
Multi-Version Surveys



And these are similar but different!

Commodities

Industries

Processes

Variations on a theme

500 versions of an industry survey!?

But wait!
It gets worse!

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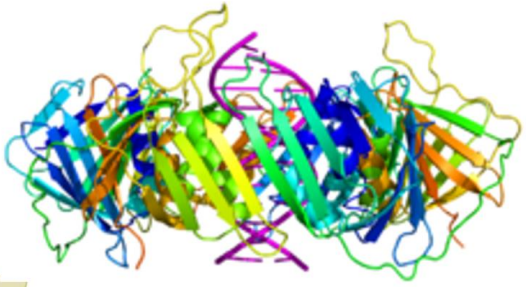
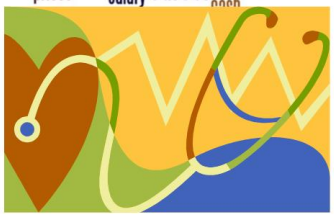
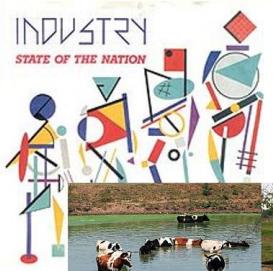
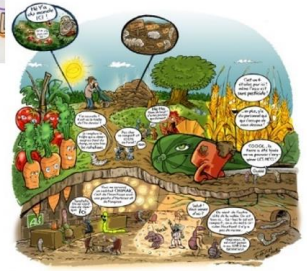
Complication 1:
Governmental and Scientific Surveys



And the surveys we do!







- **Long**
- **Complex**
- **Economic**
- **Social**
- **Behavioral**
- **Cross-sectional**
- **Longitudinal**
- **Multi-instrument**

But wait!
It gets worse:

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Complication 2: Operational realities

Legacy surveys and data series!

Paper questionnaires

Edits across modes!

Device sensors!

But wait!
It gets worse!

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Complication 3: Constraints

Screens are too small!

Not enough time!

Not enough money!

Last minute changes!

Unclear specifications!

Computers are too slow!

You want what?! When?!

But wait!
It gets worse.

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Complication 4: Methodological and Operational Demands

Audit trails!

Scientific integrity!

Survey Management!

Change strategies!

Increase incentives!

Console the interviewers!

Change the instrument?!

But wait!
It gets worse!

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Complication 5: Accessibility

And there is this!

Blind people

The visually impaired

The motor impaired

The cognitively impaired

On different devices!

With different screen readers and magnifiers!

And how do your fancy screens translate for these people?

So, what do we do?
As a profession?

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The Points

- Modern-day surveys are very hard
- No single person has all the answers
- No single organization has the resources
- Specification, development, and testing are daunting

- Structure based approach to specification
  - And to methodological research

- The industry has to coordinate the research

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The Goal: Structure-based approach

- A question writer focuses on:
  - Questions and content
  - Naming structures
- A question writer does not:
  - Design for one mode then another
  - Obsess about layout
- The result is an instrument that is multi-everything
  - Desktop – laptop
  - Browser – app
  - Tablet – smart phone – vertical or horizontal orientation

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What is the month and day of your birth?

Specify once

INTERVIEWER: Enter month first then day.

and standard platform settings.

Checks and Signals

Route

Rules Behavior

Server Contact

Culture Source

When To Show Special Answers

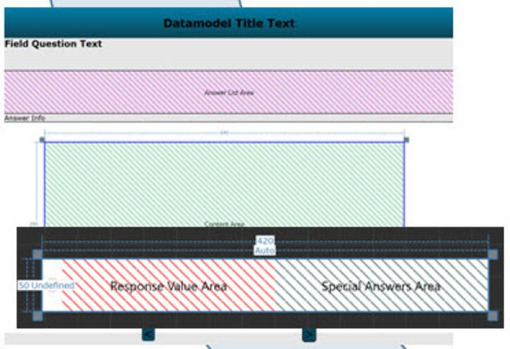
Data Entry Settings

D Interview

D Self

D App

Standard device-specific templates,



and standard multimode keywords and languages,

```
ROLES =
  Help "Help",
  ToolTip "Tool tip hint",
  ScReader "Screen reader text"
  StatVar "Stat vari
  CategoryGroup "To
  Entity "Relational
  Watermark "Data er
  FormLabel "Form pa
  IntInstr "Intervie
```

```
SPECIALANSWERS =
   NA "Not applicable"
   OoR "Out of range"

SPECIALANSWERSETS
   NotApplicable = NA
   EmptyAllowed = Self : EMPTY
                  Interview: DK, RF
                  Data : DK, RF, NA, OoR
```

```
MODES =
   Self "Self",
   Interview "Interview",
   Data "Data"
```

```
LANGUAGES =
   ENG "English",
   FRA "Français",
   NED "Nederlands",
```

Magic

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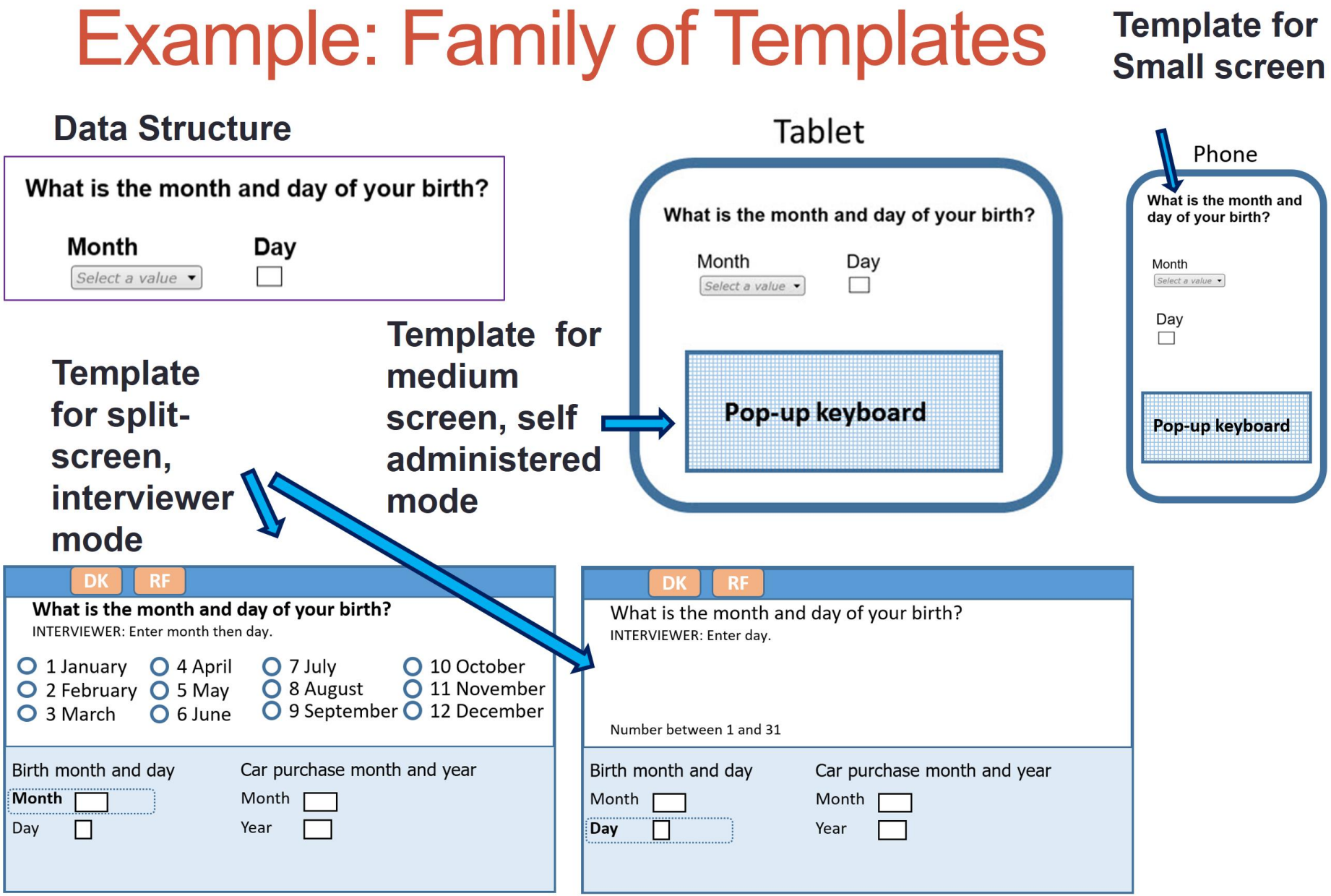
Example: Family of Templates



Example 2: Data Structure

This is another data structure.

What is the highest level of education you have attained?

Choose one answer.

- ○ Elementary school
- ○ Some high school
- ○ Graduated high school
- ○ Some college
- ○ Graduated college
- ○ Some graduate school
- ○ Masters or higher degree

From a CASIC design perspective these two questions should be handled the same.

It is a manifestation of:

Question text
Instruction

- Ordered choice 1
- Ordered choice 2

  *

  *

- Ordered choice n

What is your age range?
Please choose one.

- ○ 21 – 30 years old
- ○ 31 – 40 [years old]
- ○ 41 – 50 [years old]
- ○ 51 – 60 [years old], or
- ○ 61 – 70 [years old]

In Conclusion

- Methods research is not keeping up with technology
- Methods research should focus on making question structures work across the 9 Multis

- I don't think unimode design works for many structures
  - Though I hate to say this

- I do think we need to rely on cognitive equivalence for question design (generalized mode design)
  - But do the research on question structures

In Conclusion

- Mark M Pierzchala
- MMP@MMPSurveyServices.com

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