

# Who's to Blame for Survey Instability: Respondents with Nonexistent Preferences or Researchers with Flawed Measures?<sup>1</sup>

Gary King<sup>2</sup>

Institute for Quantitative Social Science  
Harvard University

Bocconi University, 3/24/2026

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<sup>1</sup>1st sentence of abstract: “Neither.” Slides, paper, data: [GaryKing.org](http://GaryKing.org)

<sup>2</sup>Based on joint work with [Libby Jenke](#), University of Houston



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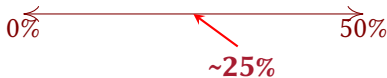
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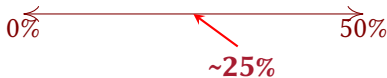
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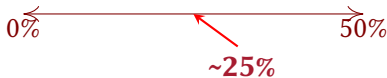
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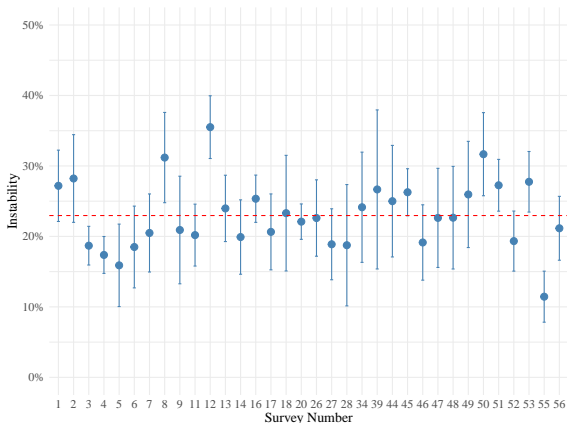


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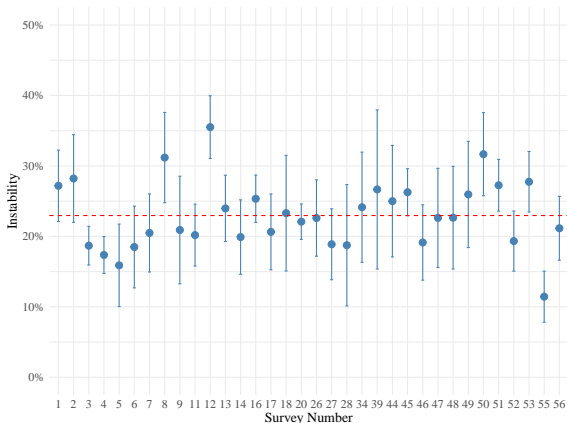


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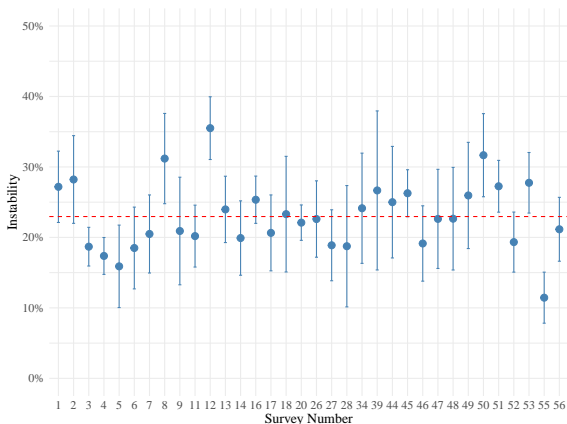


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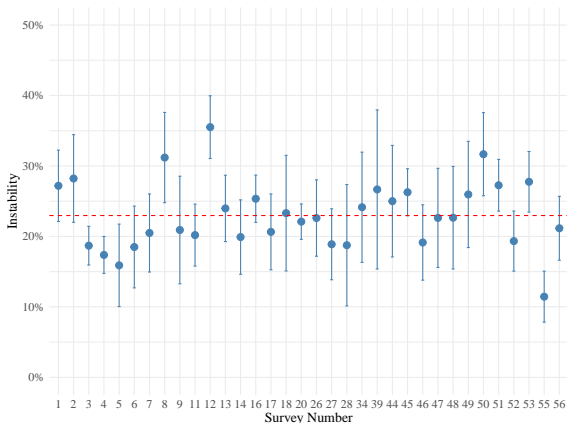


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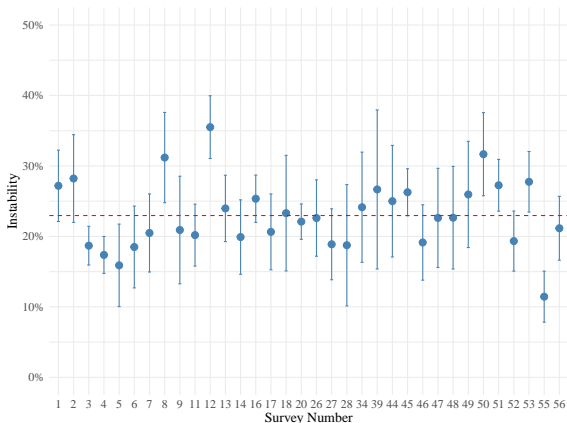


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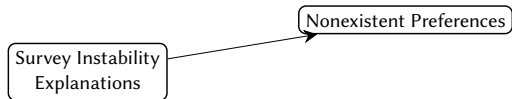
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    - **Full research history** incl. failed hypotheses & mistakes

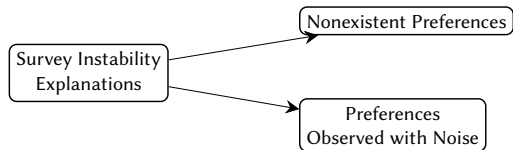
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Survey Instability  
Explanations

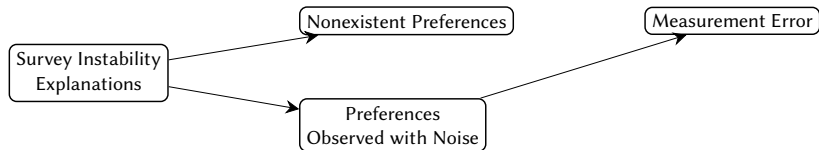
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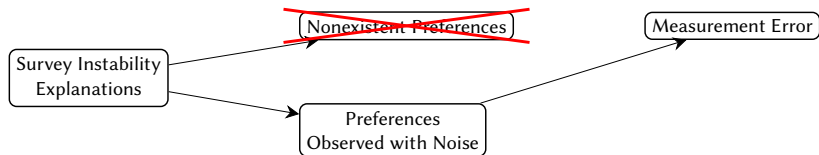
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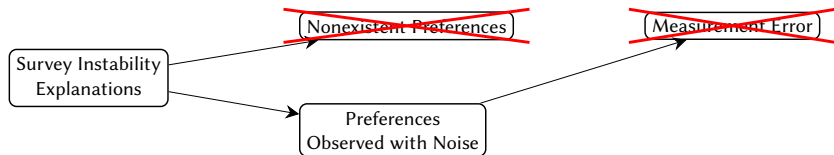
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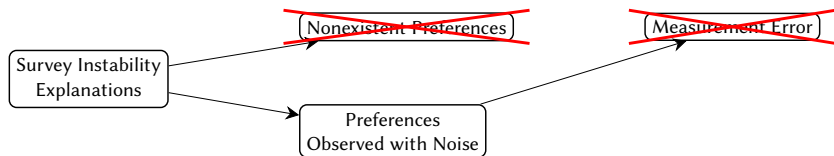
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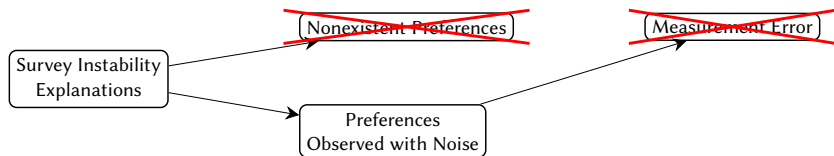


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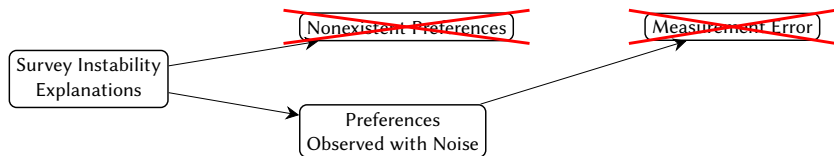
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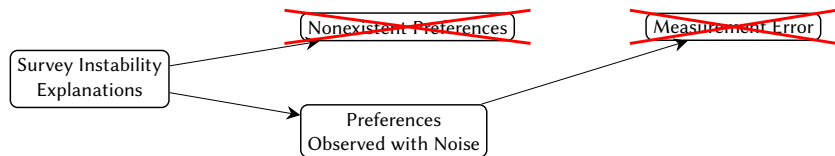
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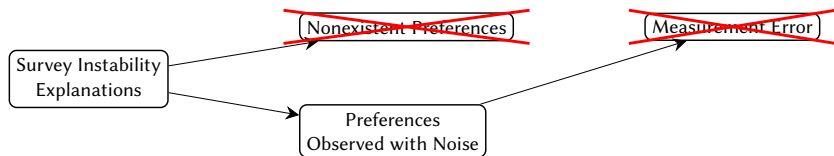
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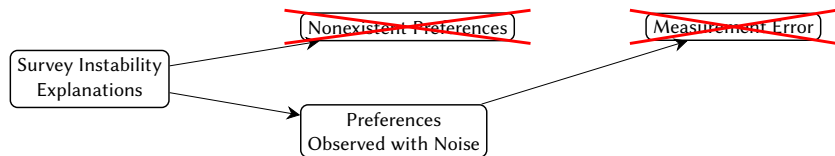
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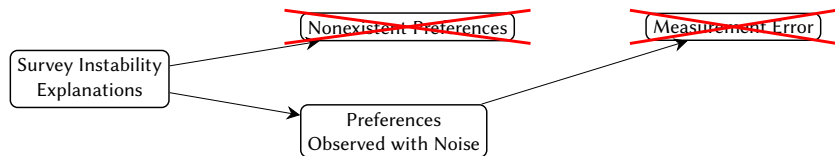
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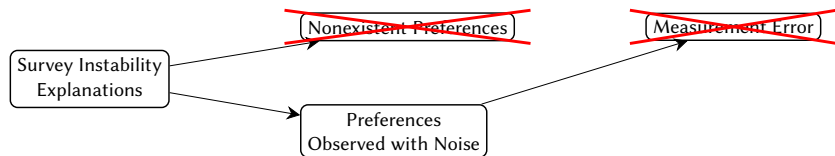
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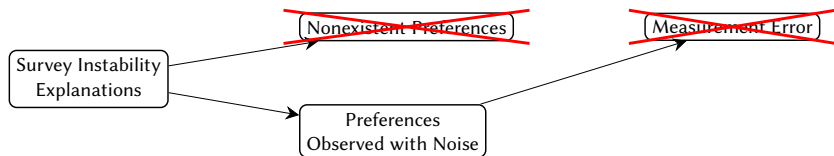
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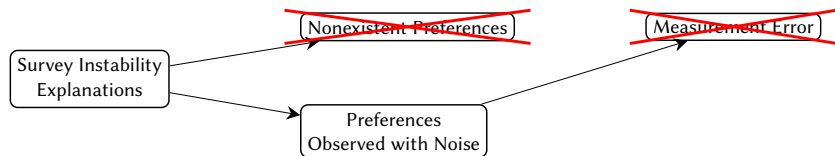
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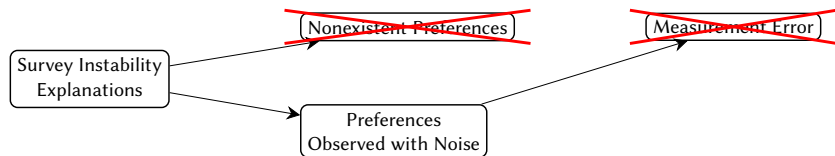
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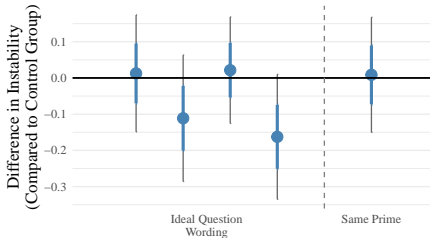
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~~(Nonexistent Preferences)~~

~~(Measurement Error)~~

Survey Instability  
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## Reducing Bias Doesn't Reduce Instability



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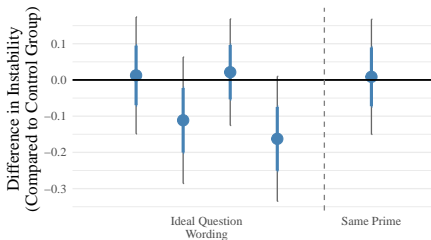
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~~(Nonexistent Preferences)~~

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Survey Instability  
Explanations

## Reducing Bias Doesn't Reduce Instability



- Left: 2008 ANES question wording changes

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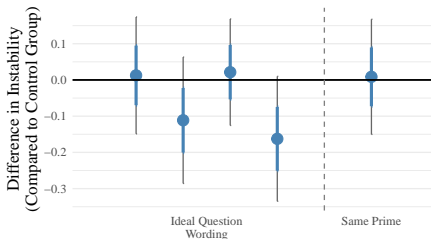
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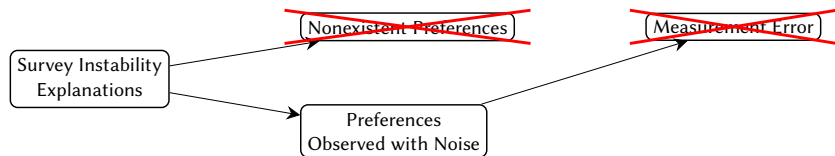
## Reducing Bias Doesn't Reduce Instability



- Left: 2008 ANES question wording changes
- Right: different (priming) “considerations”

• reduce bias, not instability

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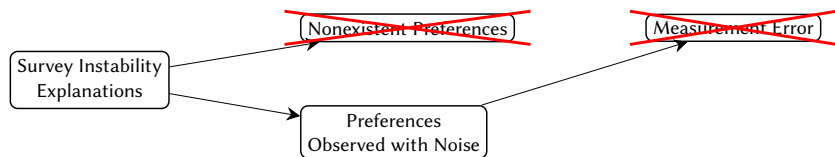
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- **Persuasion attempts:** usually fail
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- $\Rightarrow$  Preferences exist & rarely change (without a reason)

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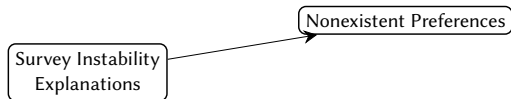
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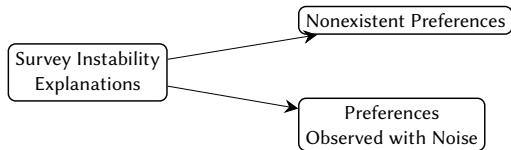
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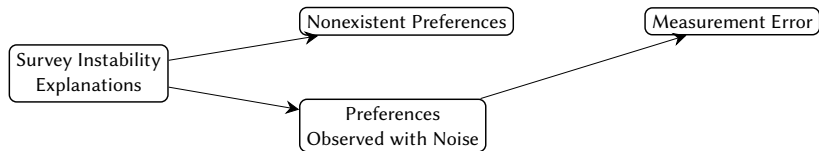
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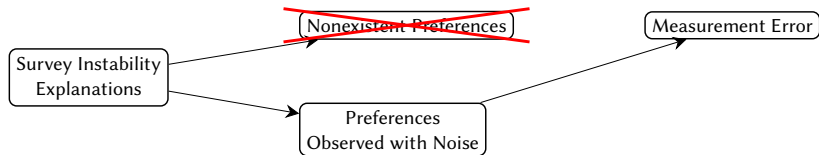
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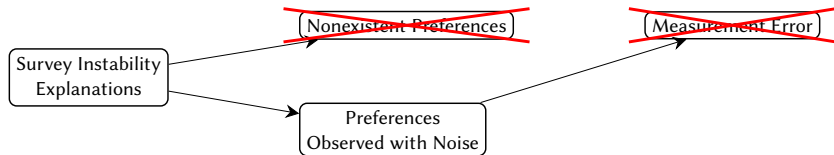
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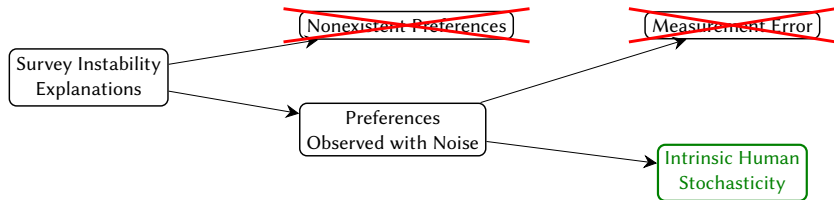
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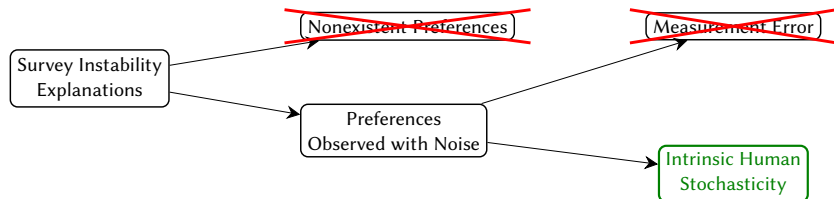
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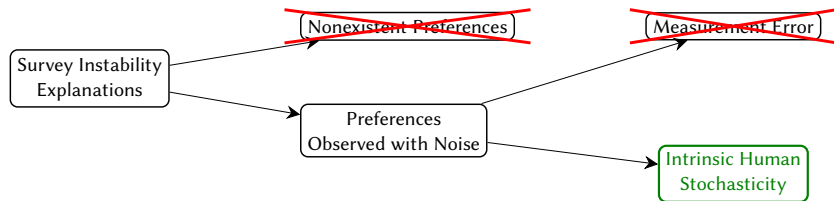


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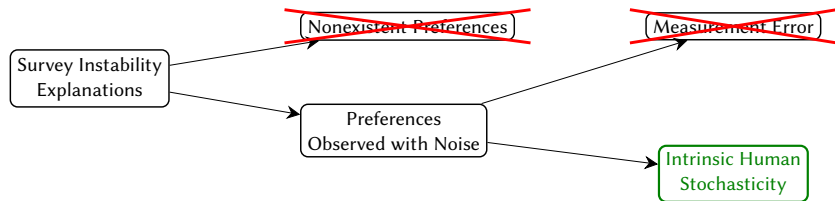
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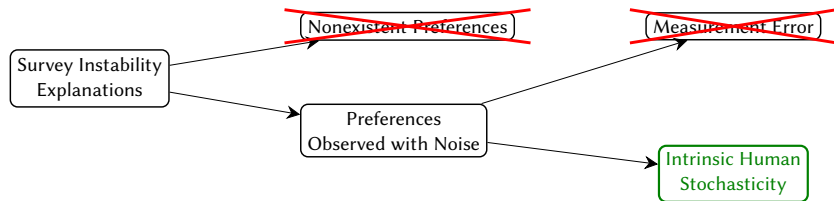
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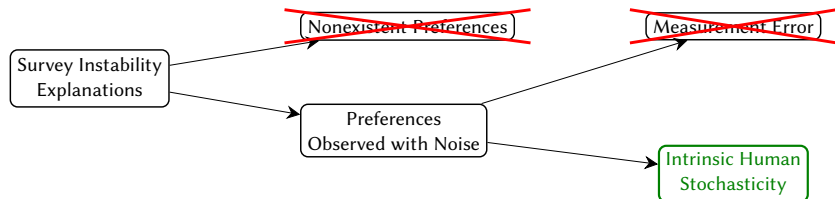
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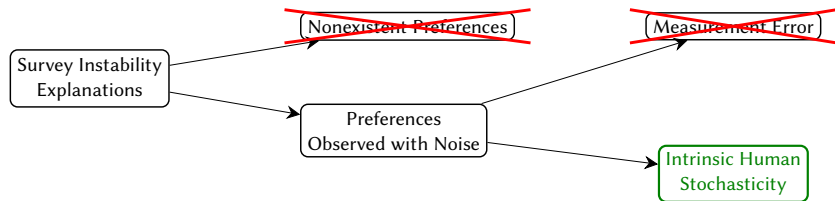
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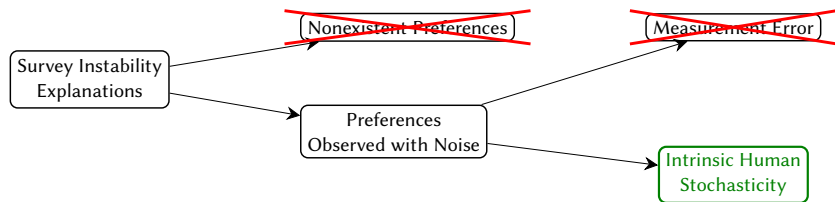
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Introduction

Intrinsic Human Stochasticity

**Sources of Stochasticity Leading to Survey Instability**

Substantive Conclusions, Practical Implications

# Sources of Stochasticity Leading to Survey Instability

## **Survey Instability**

$C_1 \neq C_2$  (No memory,  
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# Sources of Stochasticity Leading to Survey Instability

Survey Response Level

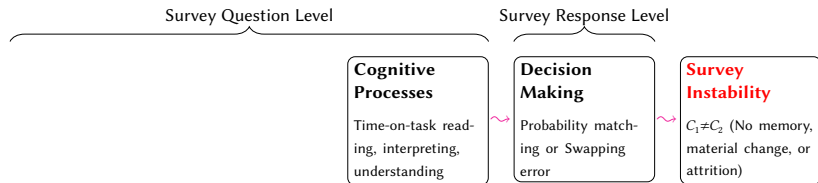
**Decision Making**

Probability matching or Swapping error

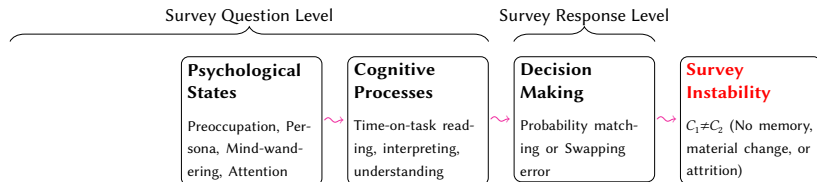
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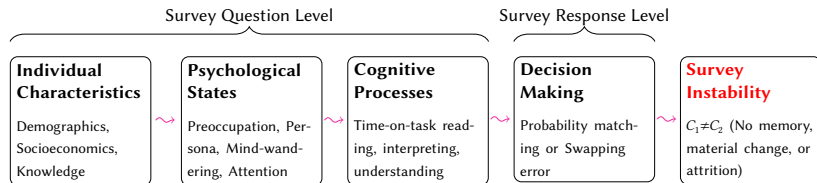
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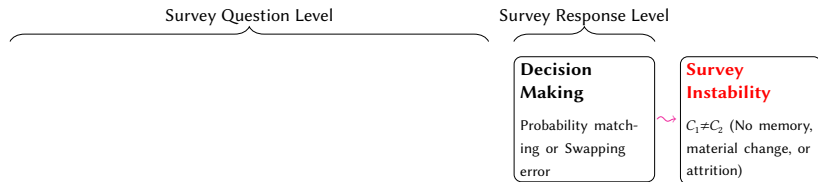
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- In 6/10, Party A is better for you than Party B.

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### Election Day

- 10 offices, each with Party A & B candidates
- In 6/10, Party A is better for you than Party B.
- How many Party A candidates will you choose?

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- Previous Evidence:

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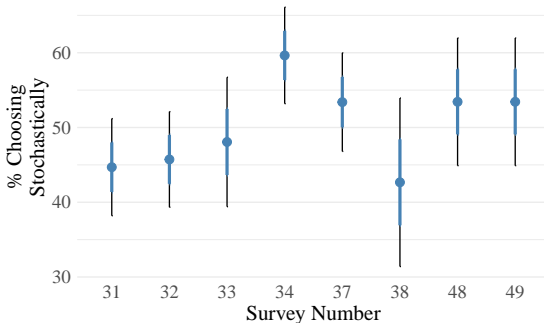
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## Decision Making: Highly Stochastic!



- P...  
w...  
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# Stochasticity Sources: Cognitive Processing

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# Stochasticity Sources: Cognitive Processing

Survey Response Level

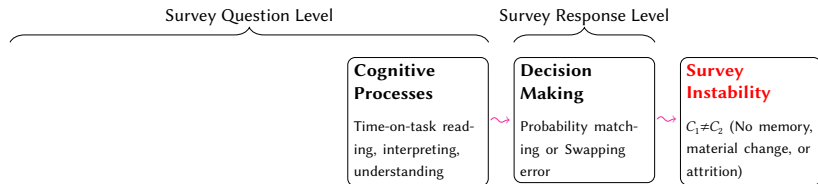
## Decision Making

Probability matching or Swapping error

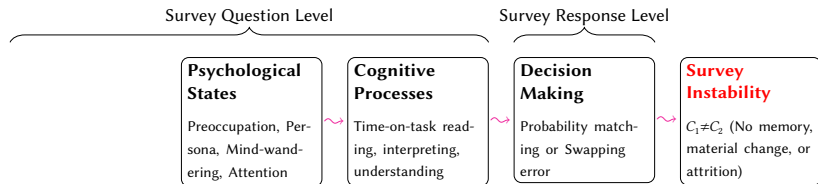
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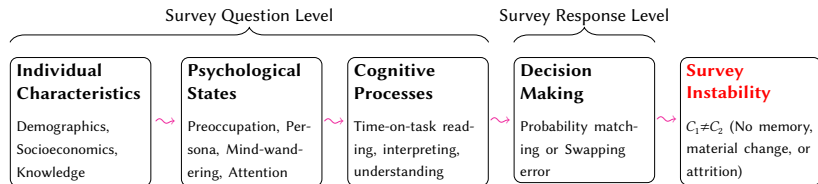
# Stochasticity Sources: Cognitive Processing



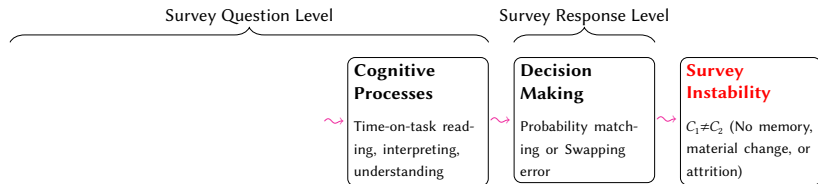
# Stochasticity Sources: Cognitive Processing



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# Stochasticity Sources: Cognitive Processing

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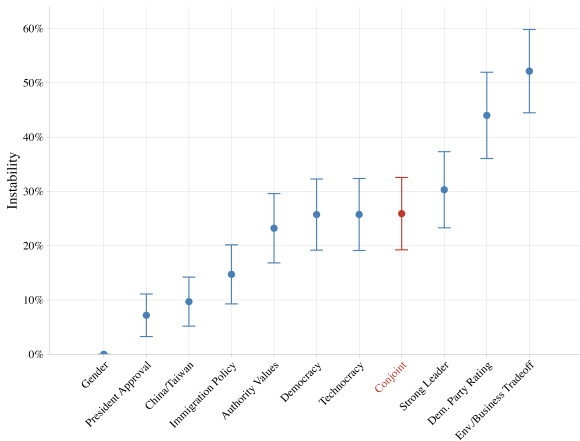
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What

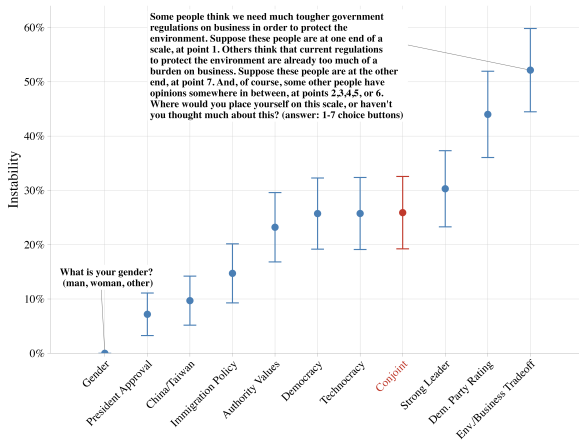
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What

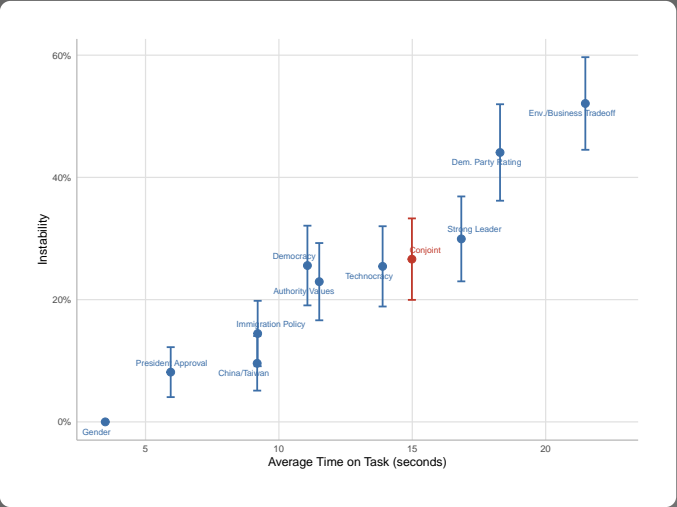
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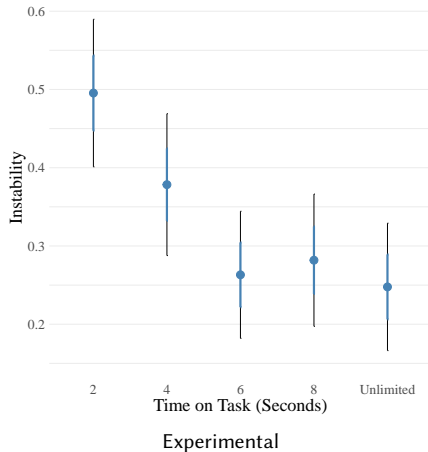
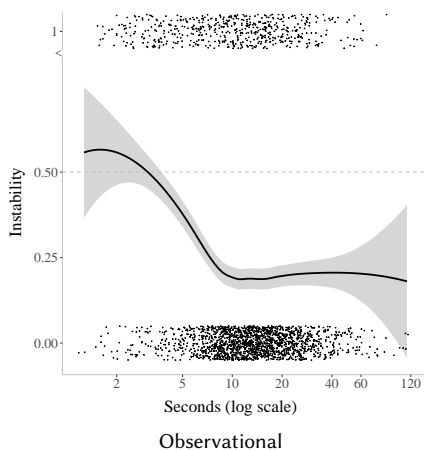
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# Stochasticity Sources: Cognitive Processing

## Limited time-on-task causes survey instability




# Stochasticity Sources: Cognitive Processing

What increases stochasticity (and instability)?

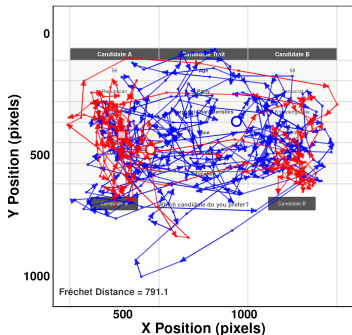
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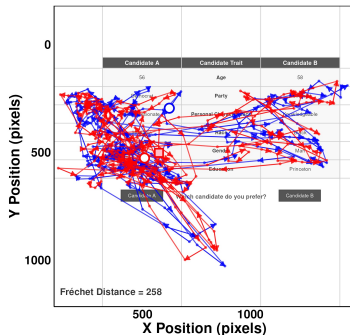
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## Stochasticity in Gaze Behavior

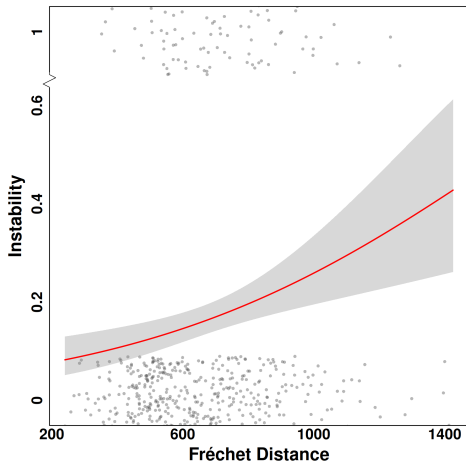


Large difference



Small difference

## Stochastic Distance $\rightsquigarrow$ Survey Instability




What

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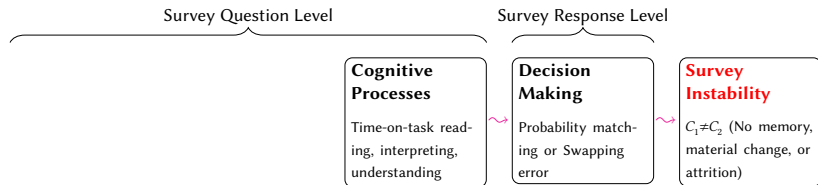
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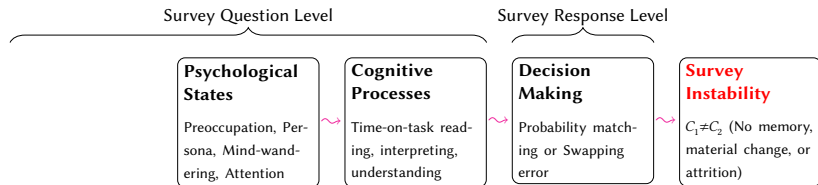
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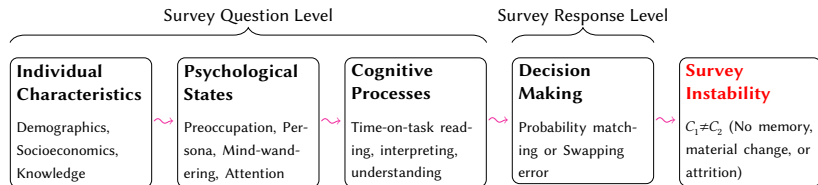
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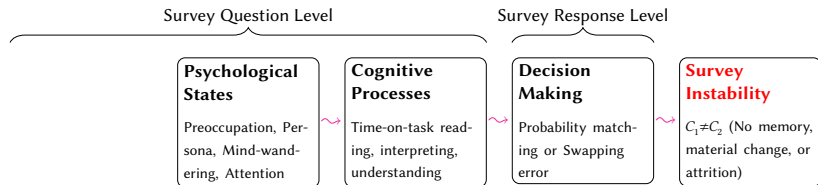
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# Stochasticity Sources: Psychological States

	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
Intentional	Persona	Attention

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Q1: We would like to get a sense of your consumption of political news. To demonstrate that you've read this much, just go ahead and select both every day and never among the options below, no matter how often you watch political news.

Based on the text you read above, how often do you watch political news on TV? (1) Every day, (2) Once a week, (3) Once a month, (4) A few times a year, (5) Never

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Q2: Which of these is a vegetable?

(1) Ham, (2) Ice cream, (3) Carrot, (4) Bread, (5) Apple

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Attention Checks:

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## Attention Checks:

- **The Good:** Predicts TOT & survey instability

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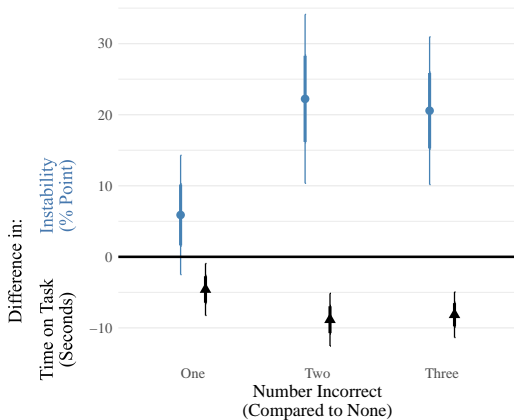
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# Stochasticity Sources: Psychological States

## Attention Checks Predict TOT & Survey Instability



Attent

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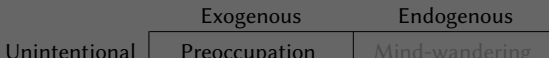
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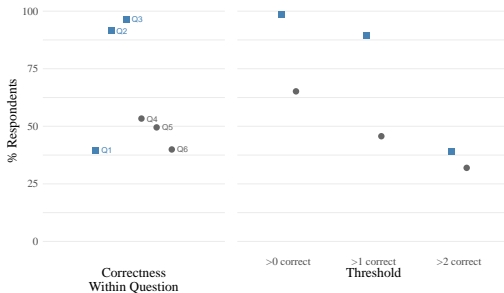
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  - **Massive differences across AC questions**

# Stochasticity Sources: Psychological States



## Huge Variation in Attention Check Thresholds



- Massive differences across AC questions

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  - **Highly instable**, likely endogenous

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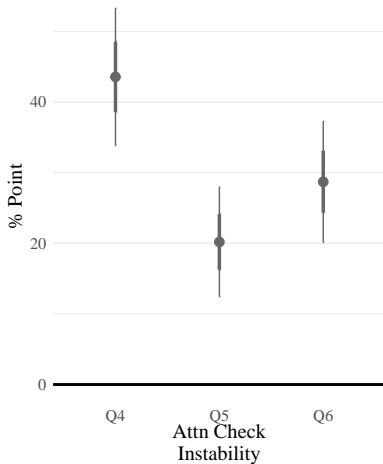
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## Attention Checks

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## Attention Checks are Highly Instable



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  - **Standard Qs:** follows Gricean maxims of mutual cooperation
  - **Attention checks reduce attention:** Trick questions  $\rightsquigarrow$  surveys become games  $\rightsquigarrow$  less TOT  $\rightsquigarrow$  less attention to other questions
- **The Ugly:** Unacceptable statistical properties
  - **Massive differences across AC questions**
  - **Highly instable**, likely endogenous

# Stochasticity Sources: Psychological States

	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
Intentional	Persona	Attention

## Attention Checks:

- **The Good:** Predicts TOT & survey instability
- **The Bad:** Ruin relationship with respondent
  - **Standard Qs:** follows Gricean maxims of mutual cooperation
  - **Attention checks reduce attention:** Trick questions  $\rightsquigarrow$  surveys become games  $\rightsquigarrow$  less TOT  $\rightsquigarrow$  less attention to other questions
- **The Ugly:** Unacceptable statistical properties
  - **Massive differences across AC questions**
  - **Highly instable**, likely endogenous
  - $\Rightarrow$  Not usable as a filter

# Stochasticity Sources: Psychological States

	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
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# Stochasticity Sources: Psychological States

	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
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## Stochasticity Sources: Psychological States

	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
Intentional	Persona	Attention

Everyone comes to a new task (like this survey) with things on their minds. How preoccupied were you, just before you started this survey, with thoughts or worries about your partner, job, health, children, friends, money, or other concerns?

(1) Very preoccupied, (2) Fairly preoccupied, (3) Slightly preoccupied, or (4) Not at all preoccupied.

# Stochasticity Sources: Psychological States

	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
Intentional	Persona	Attention

# Stochasticity Sources: Psychological States

	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
Intentional	Persona	Attention

Preoccupation:

# Stochasticity Sources: Psychological States

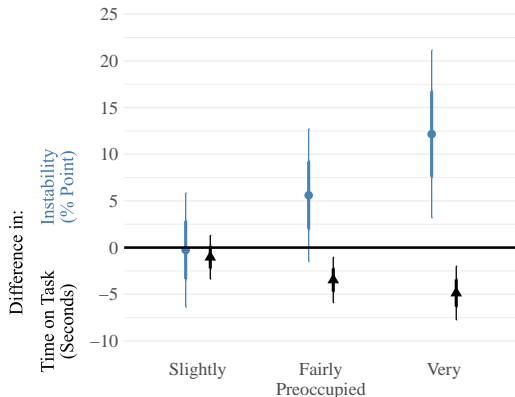
	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
Intentional	Persona	Attention

## Preoccupation:

- **Reduces** time-on-task; **Increases** survey instability

# Stochasticity Sources: Psychological States

## Preoccupation: reduces TOT & Survey Instability



# Stochasticity Sources: Psychological States

	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
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## Preoccupation:

- **Reduces** time-on-task; **Increases** survey instability

# Stochasticity Sources: Psychological States

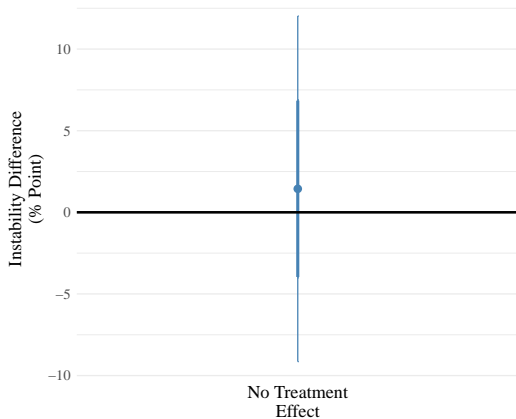
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## Preoccupation:

- **Reduces** time-on-task; **Increases** survey instability
- Has **no effect** on other questions

# Stochasticity Sources: Psychological States

## Preoccupation: no effect on other questions



# Stochasticity Sources: Psychological States

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## Preoccupation:

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# Stochasticity Sources: Psychological States

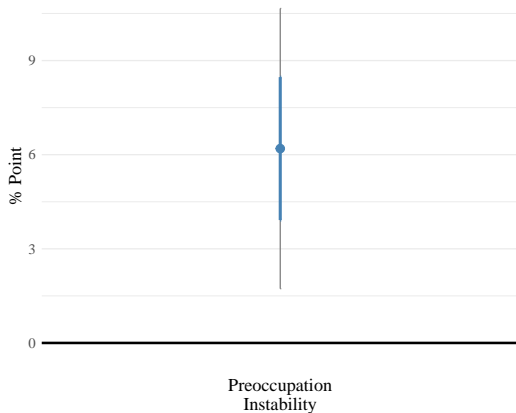
	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
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## Preoccupation:

- **Reduces** time-on-task; **Increases** survey instability
- Has **no effect** on other questions
- Highly **stable** ( $6\% \ll 25\%$ )

# Stochasticity Sources: Psychological States

## Preoccupation: highly stable



# Stochasticity Sources: Psychological States

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## Preoccupation:

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- Has **no effect** on other questions
- Highly **stable** ( $6\% \ll 25\%$ )

# Stochasticity Sources: Psychological States

	Exogenous	Endogenous
Unintentional	Preoccupation	Mind-wandering
Intentional	Persona	Attention

## Preoccupation:

- **Reduces** time-on-task; **Increases** survey instability
- Has **no effect** on other questions
- Highly **stable** ( $6\% \ll 25\%$ )
- $\Rightarrow$  **Great for understanding (and filtering) respondents**

# Stochasticity Sources: Individual Characteristics

## **Survey Instability**

$C_1 \neq C_2$  (No memory,  
material change, or  
attrition)

# Stochasticity Sources: Individual Characteristics

Survey Response Level

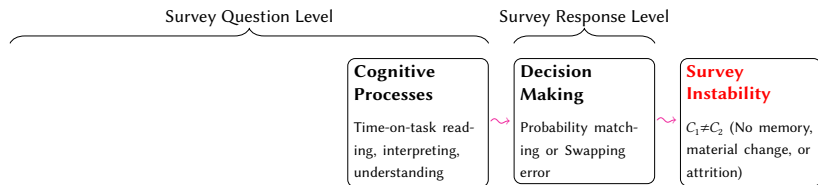
**Decision Making**

Probability matching or Swapping error

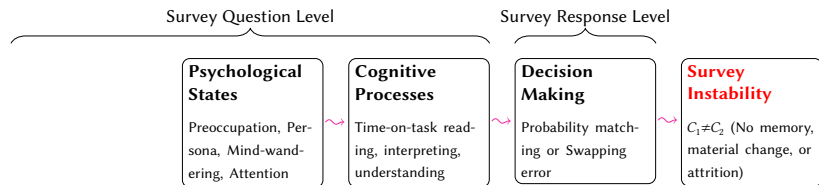
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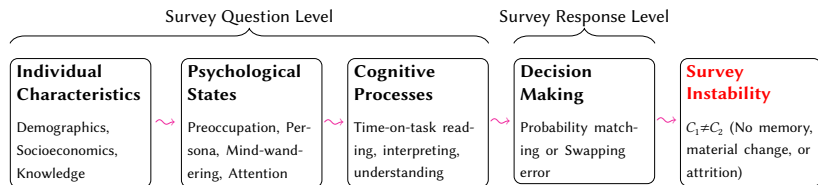
# Stochasticity Sources: Individual Characteristics



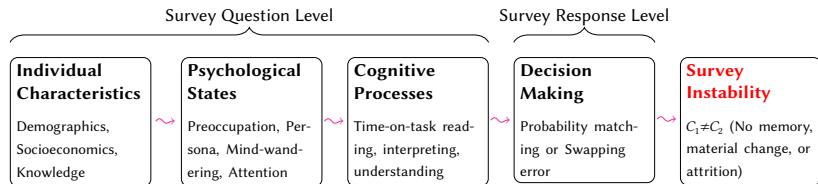
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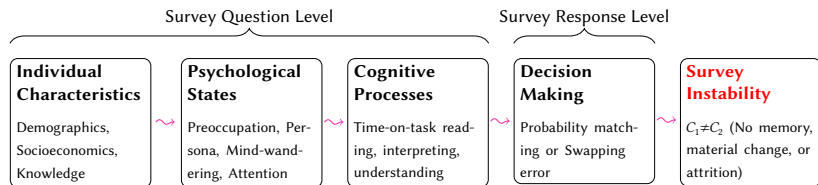


# Stochasticity Sources: Individual Characteristics



e.g., Older folks:

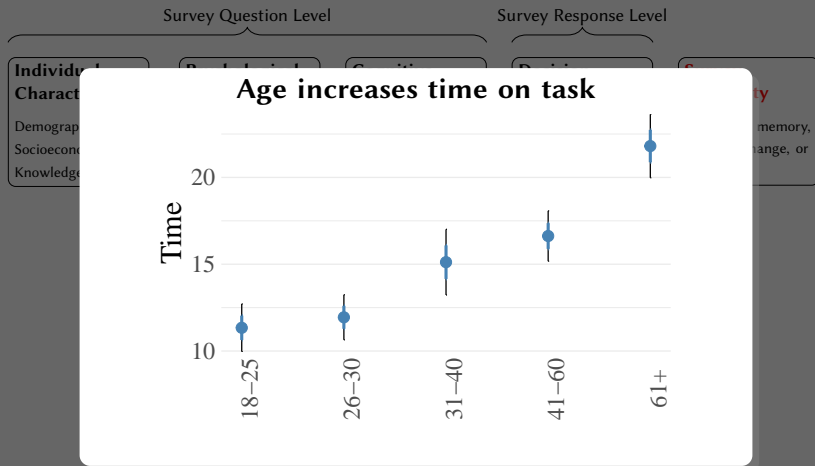
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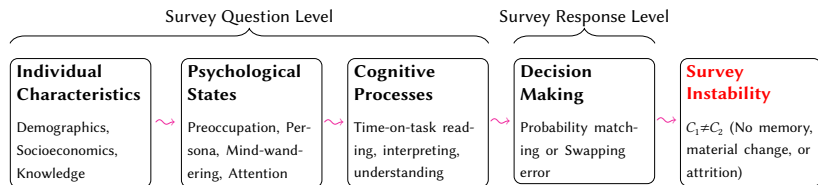
e.g., Older folks:

- spend **more** time on task

# Stochasticity Sources: Individual Characteristics



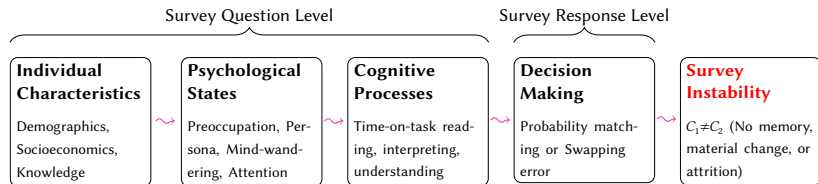
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# Stochasticity Sources: Individual Characteristics



e.g., Older folks:

- spend **more** time on task
- are **less** preoccupied

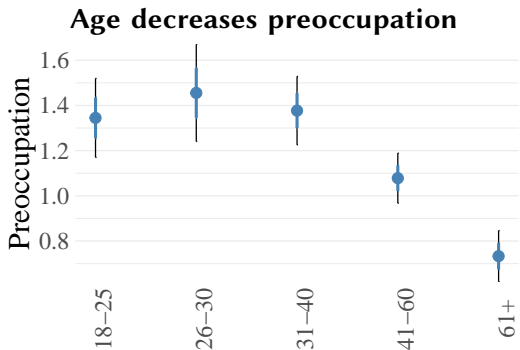
# Stochasticity Sources: Individual Characteristics

Survey Question Level

Survey Response Level

Individual  
Character

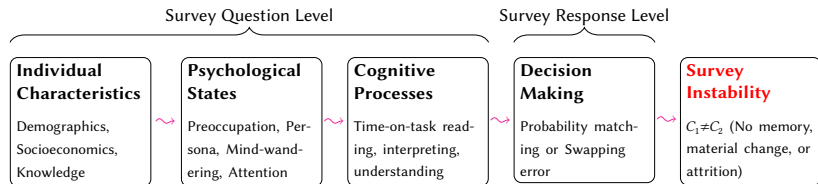
Demograp  
Socioecon  
Knowledge



ity

memory,  
change, or

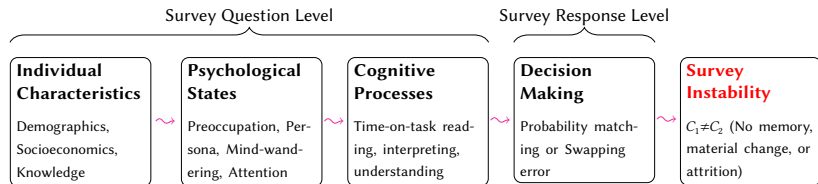
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# Stochasticity Sources: Individual Characteristics



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- are **less** preoccupied
- mind-wander **less**

# Stochasticity Sources: Individual Characteristics

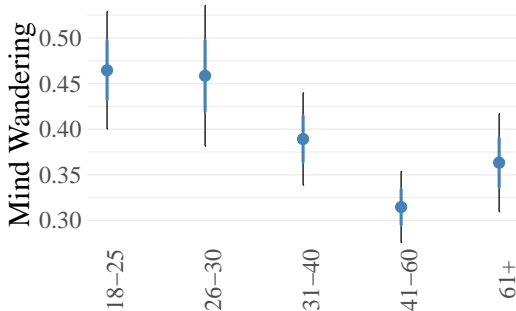
Survey Question Level

Survey Response Level

Individual  
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Demographic  
Socioeconomic  
Knowledge

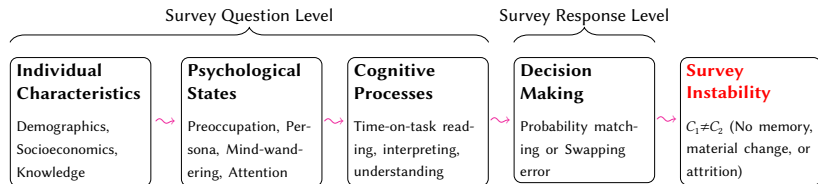
## Age decreases mind-wandering



Stability

memory,  
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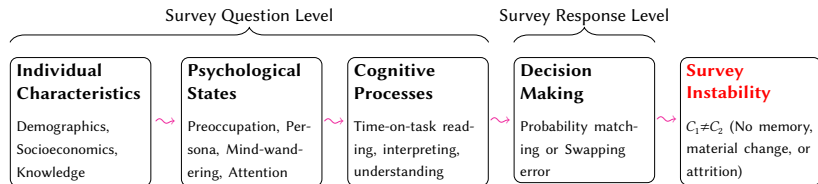
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# Stochasticity Sources: Individual Characteristics



e.g., Older folks:

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- mind-wander **less**
- have **lower** survey instability

# Stochasticity Sources: Individual Characteristics

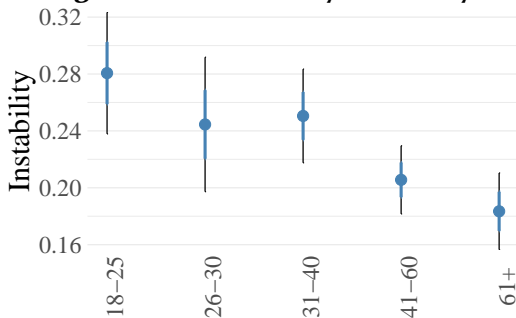
Survey Question Level

Survey Response Level

Individual  
Character

Demograp  
Socioecon  
Knowledge

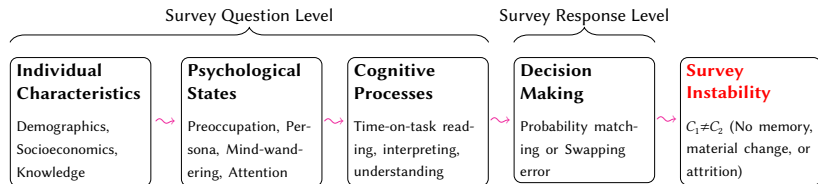
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ty

memory,  
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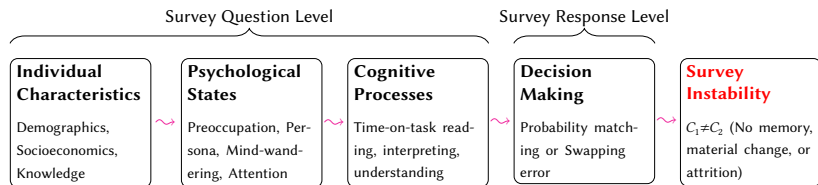
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Future research:

What else predicts survey instability?

Introduction

Intrinsic Human Stochasticity

Sources of Stochasticity Leading to Survey Instability

**Substantive Conclusions, Practical Implications**

# Implications for Survey Practice

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- Improve Survey Instruments

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- Filter (Likely Instable) Respondents

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# Implications for Survey Practice

- **Improve Survey Instruments**
  - **Reduce cognitive complexity:** Simpler Qs, Fewer As
  - **Measure remaining survey instability:** Just one extra Q
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  - **Remaining instability:** correct statistically

# So Who's to Blame for Survey Instability?

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## Explanations:

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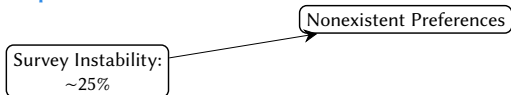
## Explanations:

Survey Instability:

~25%

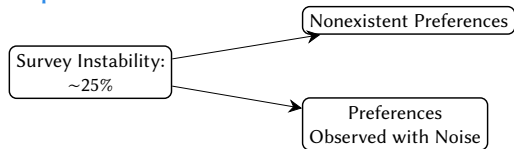
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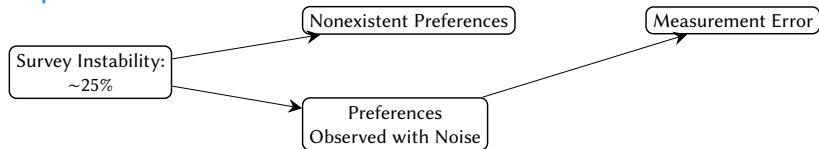
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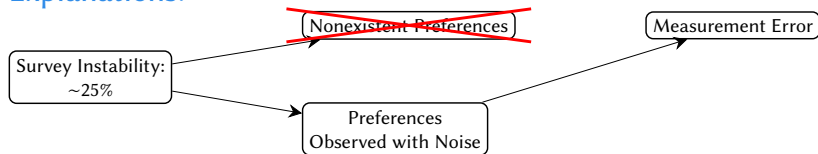
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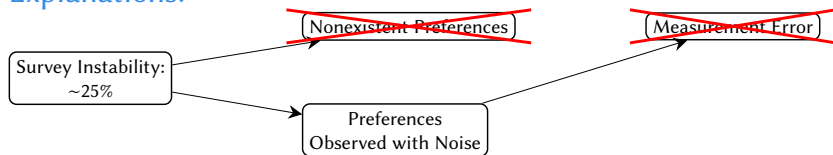
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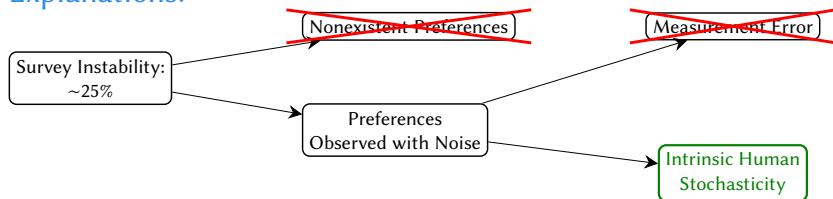
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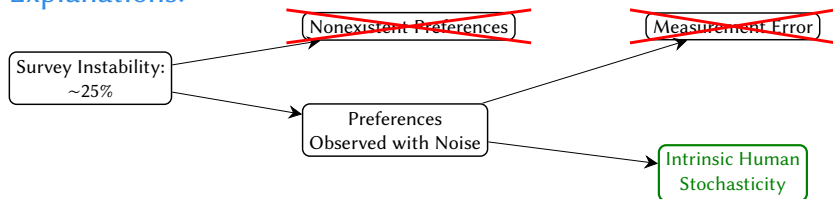
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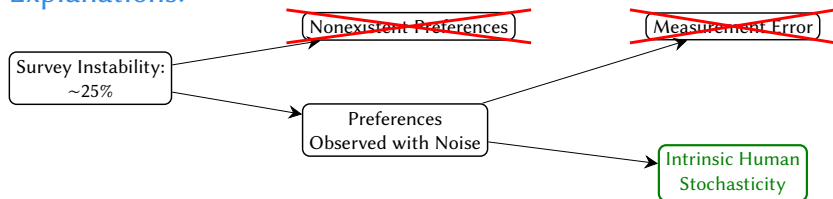
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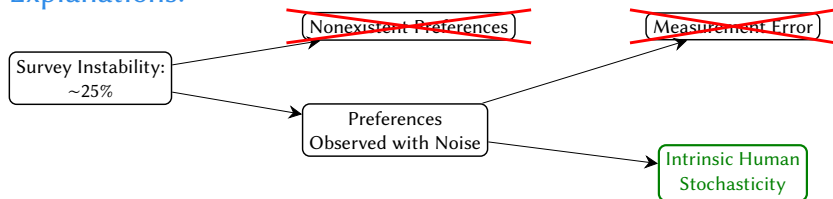
## Sources:

### Survey Instability

$C_1 \neq C_2$  (No memory, material change, or attrition)

# So Who's to Blame for Survey Instability?

## Explanations:



## Sources:

### Survey Response Level

#### Decision Making

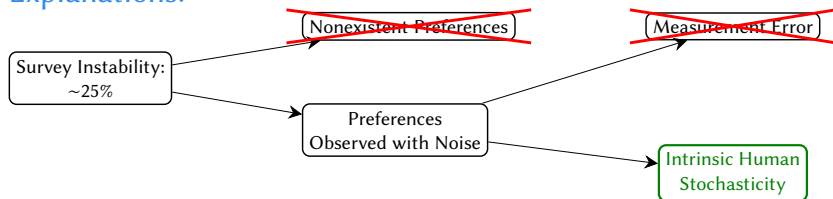
Probability matching or Swapping error

#### Survey Instability

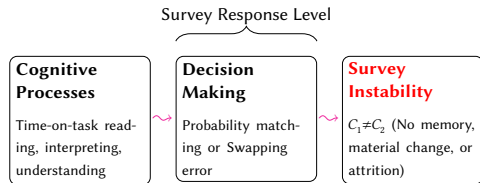
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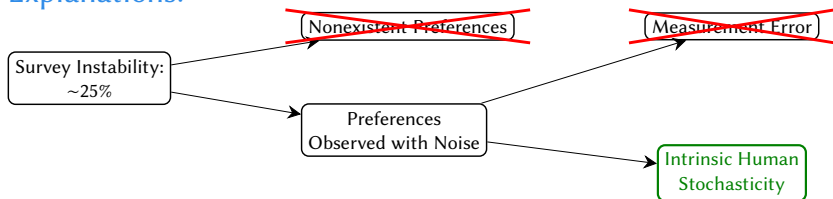


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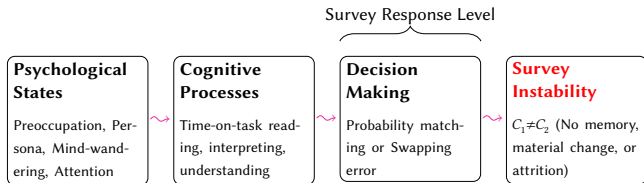


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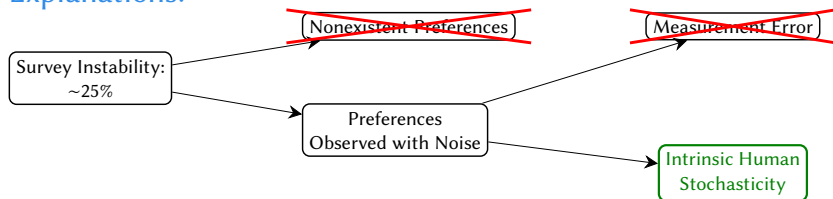


## Sources:

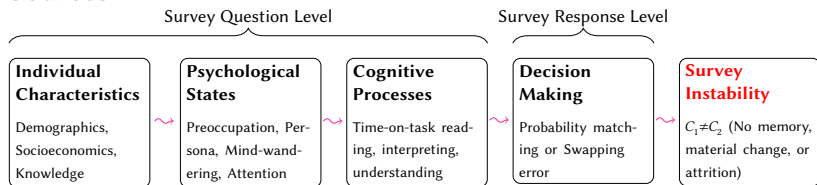


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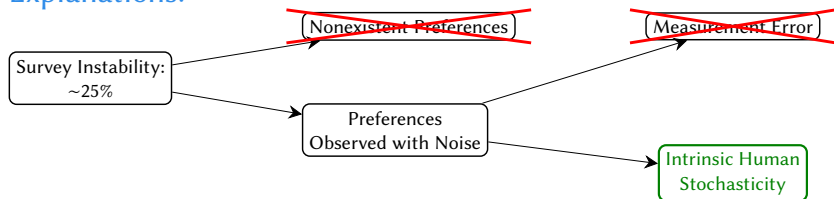


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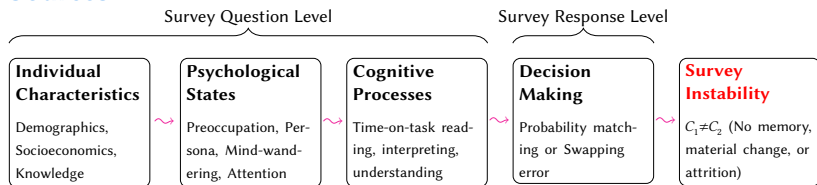


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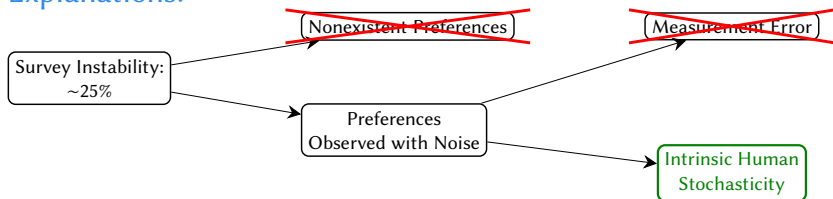
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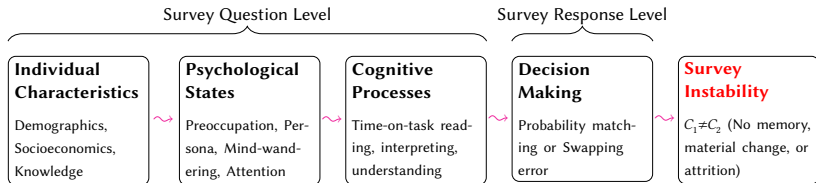
## Implications

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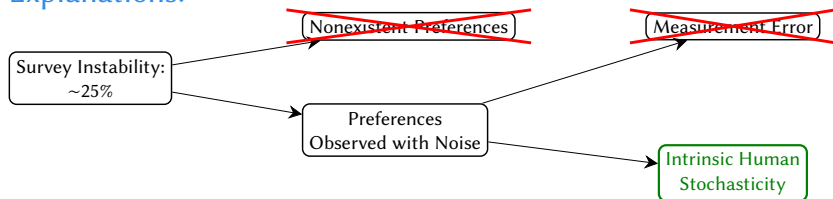
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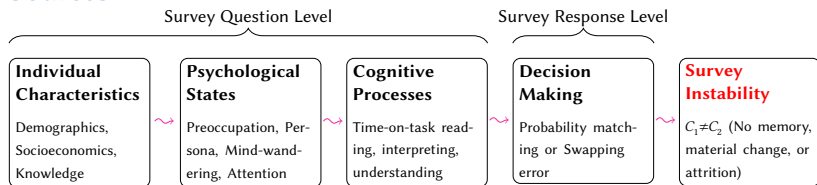
## Implications Survey Qs:

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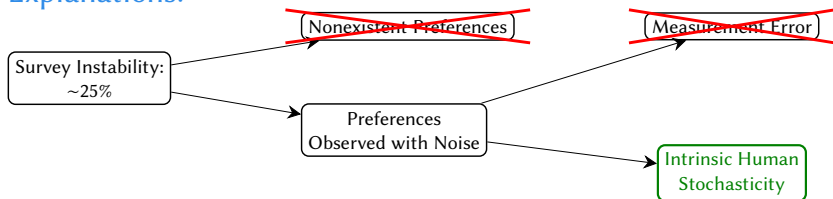
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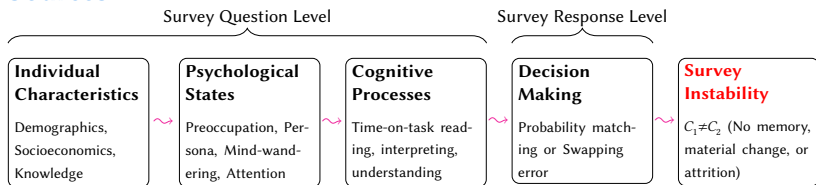
**Implications** Survey Qs: reduce cognitive complexity,

# So Who's to Blame for Survey Instability?

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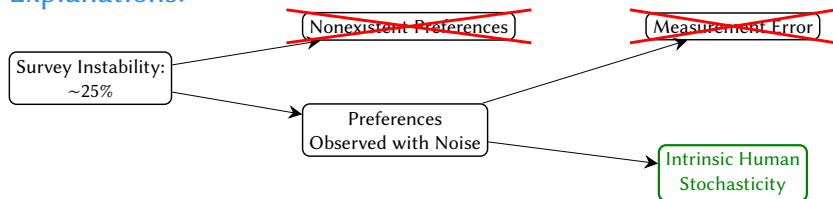
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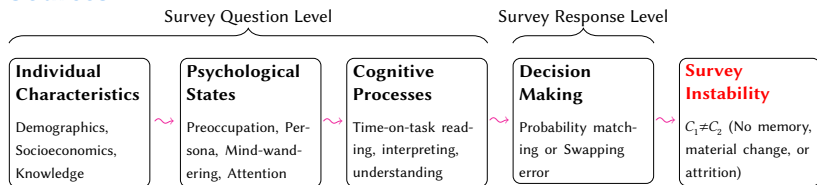
**Implications** Survey Qs: reduce cognitive complexity, measure instability

# So Who's to Blame for Survey Instability?

## Explanations:



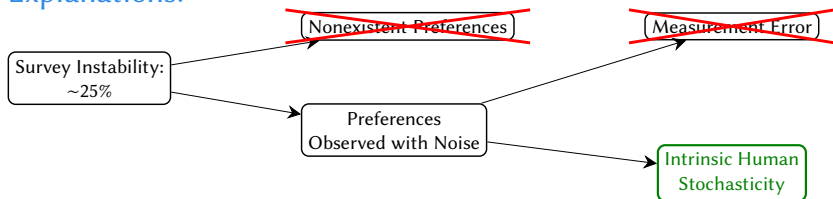
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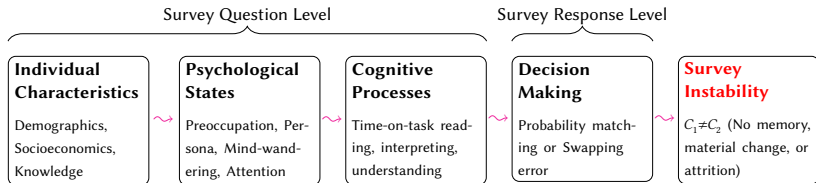
**Implications** Survey Qs: reduce cognitive complexity, measure instability  
Filter:

# So Who's to Blame for Survey Instability?

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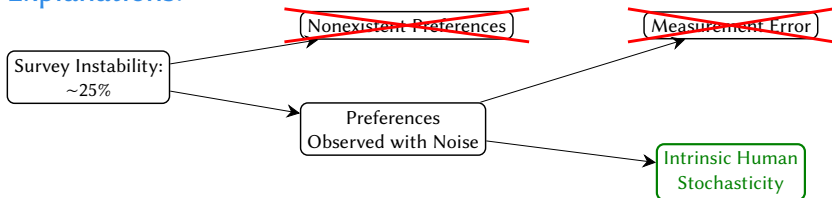
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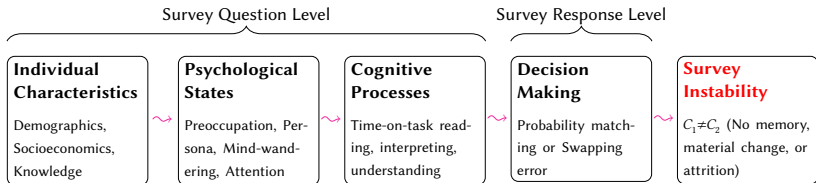
**Implications** **Survey Qs:** reduce cognitive complexity, measure instability  
**Filter:** preoccupied,

# So Who's to Blame for Survey Instability?

## Explanations:



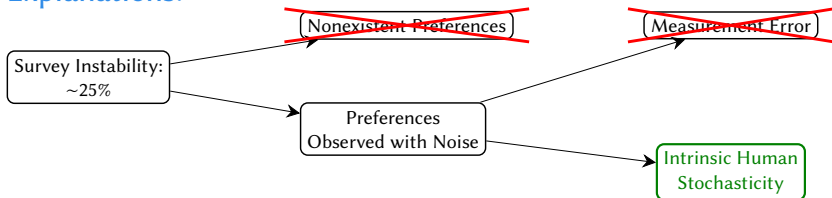
## Sources:



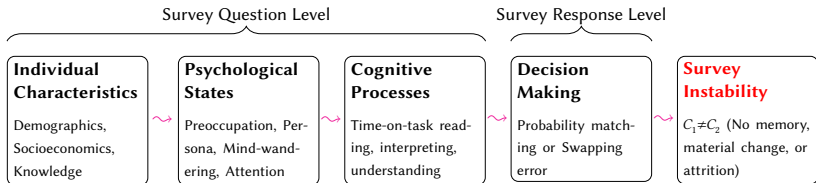
**Implications** **Survey Qs:** reduce cognitive complexity, measure instability  
**Filter:** preoccupied, low time-on-task

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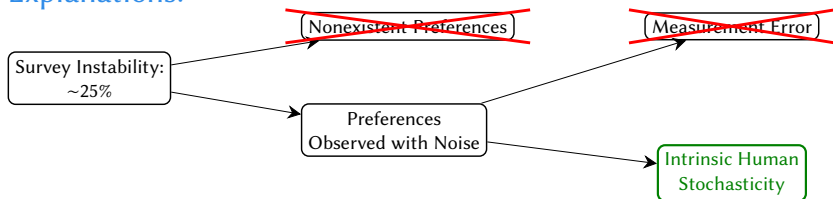
**Implications** **Survey Qs:** reduce cognitive complexity, measure instability

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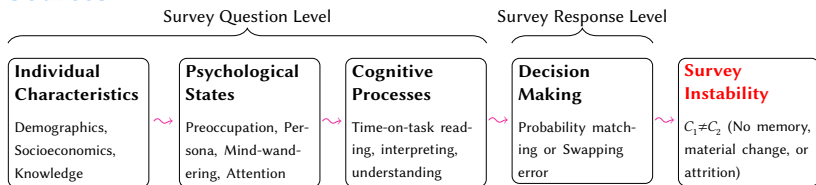
**Correct for:**

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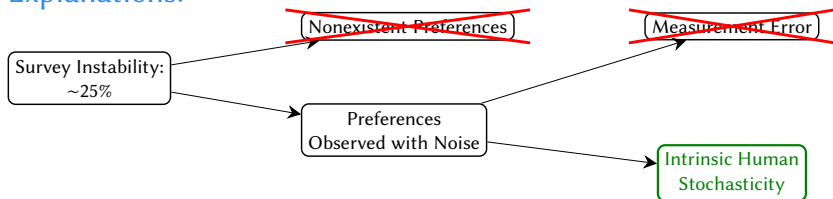
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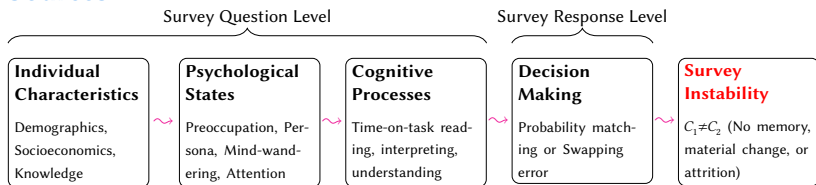
**Correct for:** selection bias,

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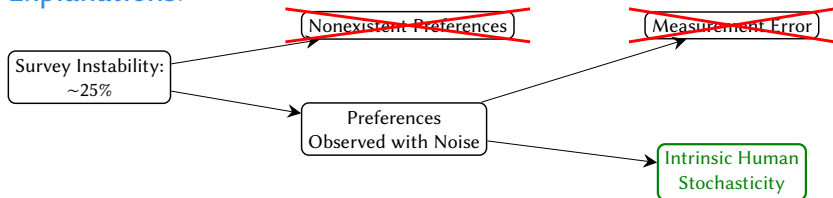
**Implications** **Survey Qs:** reduce cognitive complexity, measure instability

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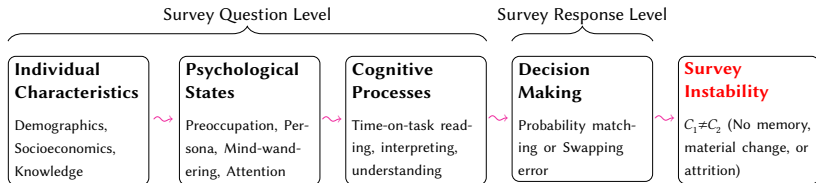
**Correct for:** selection bias, remaining instability

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## Sources:



**Implications** **Survey Qs:** reduce cognitive complexity, measure instability

**Filter:** preoccupied, low time-on-task

**Correct for:** selection bias, remaining instability

Slides, data, paper: [GaryKing.org](http://GaryKing.org)

# Appendix

# A Binary Choice Conjoint Question

(Ono and Burden, 2018) [◀ Back](#)

Please carefully review the two potential candidates running for election to the U.S. House of Representatives, detailed below.

	Candidate 0	Candidate 1
Race/Ethnicity	Hispanic	Asian American
Age	52	60
Favorability rating among the public	70%	34%
Position on immigrants	Favors giving citizenship or guest worker status to undocumented immigrants	Opposes giving citizenship or guest worker status to undocumented immigrants
Party affiliation	Republican Party	Democratic Party
Position on abortion	Abortion is not a private matter (pro-life)	Abortion is a private matter (pro-choice)
Position on government deficit	Wants to reduce the deficit through tax increase	Wants to reduce the deficit through tax increase
Salient personal characteristics	Really cares about people like you	Really cares about people like you
Position on national security	Wants to cut military budget and keep the U.S. out of war	Wants to maintain strong defense and increase U.S. influence
Gender	Female	Female
Policy area of expertise	Education	Foreign policy
Family	Single (divorced)	Married (no child)
Experience in public office	12 years	4 years

If you had to choose between them, which of these candidates would you vote to be a member of the U.S. House of Representatives? [◀ Back](#)