

1 ☐ Context dependence

- ✓ The data on which we make our judgments can also be strongly affected by the *context*
- ✓ Context is defined to include:
 - Alternatives (e.g., foils on a MC test)
 - Question and alternatives order
 - Unrelated features (e.g., beauty when judging intelligence)
 - “Tone” of a questionnaire
 - Etc...

2 ☐ Halo effects

- ✓ When overall impression of an individual, community group, product, etc., influences judgment of specific attributes
- ✓ For example - if you like someone, you will not be an objective judge of their attractiveness, intelligence, ethical values, etc....

3 ☐ Thorndike (1920)

- ✓ Army superiors were asked to evaluate their officers in terms of physique, intelligence, character, and leadership.
- ✓ High correlations among these attributes.
 - E.g., one commander showed a correlation of .51 between physique and intelligence
- ✓ Similar results in teacher evaluation
 - E.g., voice quality was highly correlated with “interest in community affairs”

4 ☐ Royalty (1997)

- ✓ Instructor evaluation by students
- ✓ High correlations between students’ ratings of:
 - the clarity of the instructors’ voices
 - the instructors’ interest in whether students learned
 - the availability of the instructor for extra help

5 ☐ The effect of attractiveness

- ✓ “Beauty halo effects”
 - Attractiveness has undue influence on ratings of ability, happiness, success, personality traits, etc. (e.g., Dion, Berscheid, & Walster, 1972).

6 ☐ Halo effects in product evaluation

- ✓ Brand name’s reputation
- ✓ University’s reputation
 - U.S. News & World Report
 - Non-existent department at Harvard
- ✓ Favorite team
 - Players on your favorite team are rarely at fault.
 - Halo effects can create selective perception and selective memory.

7 ☐ Halo effects in observational data collection

- ✓ The presence of halo effects creates problems when psychologists collect observational data.
- ✓ Difficult to be an objective judge

8 ☐ Order effects

- ✓ Order of information presentation
 - The order in which data is provided influences judgment
 - Technically the order should be irrelevant
- ✓ Most studies treat order effects as noise and counterbalance to eliminate them.
 - However, many if not most real-world decision making doesn't permit counterbalancing
 - E.g., Evaluating job applicants, students' exams, figure skaters at competitions, and trial evidence.

9 ☐ Primacy effect

- ✓ Early items in list have greater influence than later items
- ✓ Early items provide the “context” against which later items are interpreted.
- ✓ This context can either shift the meaning of later items or change their importance.

10 ☐ Asch (1946)

- ✓ Examined formation of an impression given personality traits
 - Envious, stubborn, critical, impulsive, industrious, intelligent
 - Intelligent, industrious, impulsive, critical, stubborn, envious
- ✓ Same list both times, but...
 - First list left a more negative impression than the second.

11 ☐ Anderson & Norman (1964)








- ✓ Subjects heard a set of
 - adjectives describing a person, or
 - foods describing a meal, or
 - headlines describing a newspaper, or
 - life events describing a week in their life.
- ✓ They then gave their impression as to how much they would like the object or event so described.

12 ☐ Results of study

- ✓ Primacy (1st impression) effects were found with foods and adjectives.
- ✓ Less certain effect with headlines and life events
- ✓ Authors suggest that
 - Primacy is produced by decreases in the weight or importance attached to the later items of a set, rather than to shifts in meaning of the later items.

13 ☐ Fein, McCloskey, Tomlinson (1997)

- ✓ Mock jurors learned incriminating information about a defendant in the context of
 - Pretrial publicity (Study 1) or

- Testimony introduced in the trial but ruled inadmissible (Study 2).
- 14  Was the early data treated as irrelevant?
- ✓ Jurors' verdicts were affected significantly by the information
 - Unless the jurors were made suspicious about the motives underlying the introduction of this information.
 - Effect persists despite judge's explicit instructions.
 - ✓ So yes, first impressions matter!!!
- 15  Anchoring and adjusting
- ✓ An initial estimate or value will “anchor” subsequent judgments.
 - ✓ The question, your expectations, or background knowledge will determine your anchor.
 - The probability of someone having gonorrhea is 10%. What's the probability of someone having syphilis?
 - What if I said the probability of gonorrhea is 1%?
 - Actual - .29%
 - ✓ The anchor can even be provided as a random number (which the subject knows is random) and affect later estimate...
 - Ariely, Loewenstein, & Prelec (2003) had subjects provide the last two numbers of their SSN (as a price) before estimating a series of prices....
- 16  Results of Ariely et al. (2003)
- ✓ Students dismissed idea that the anchor might have influenced their max prices.
- 17  Other anchor and adjust issues:
- ✓ What makes an anchor?
 - Price tags by themselves are not necessarily anchors.
 - They become anchors when we contemplate buying something at that price.
 - What are your price anchors for soda, gas, shoes, jeans?
 - ✓ Are they easily moved?
 - No. Initial anchors (first impressions) resonate over a long series of decision (Ariely et al., 2003).
- 18  Recency effect
- ✓ In some cases, the most recent evidence has more weight than first impressions.
 - ✓ Recency effects occur most often when someone can remember the recent information better than the initial information.
- 19  Miller & Campbell (1959)
- ✓ Court trial evidence presented in various orders (detailed in text)
 - ✓ Observed both primacy and recency effects depending on condition
 - ✓ E1-E2-delay Primacy
 - ✓ E1-delay-E2 ... Recency
 - Delay of 1 week
- 20  A different kind of order effect: Bruine de Bruin (2005)
- ✓ Evaluated step-by-step vs. EOS judgments.
 - Step-by-step may be more subject to *judgment* order effects.
 - EOS may be subject to *memory* order effects.
 - ✓ De Bruin examined step-by-step and EOS judgments for:
 - Eurovision song contest (switched to step-by-step in 1975; analyzed 1957-2003)
 - World and European figure skating competitions (step-by-step)

21 Results

- ✓ Eurovision song contest
 - No difference across formats.
 - Increase in scores across time.
- ✓ Figure skating
 - Increase in scores across time in both rounds.
- ✓ This study examined different issue than earlier ones: Primacy and recency effects determine the *weight* given to early/middle/late evidence.
 - In applicant/participant judging, more weight \neq higher scores.
 - Order effect due to “reserving” extreme scores.

22 Order of questions

- ✓ The order in which questions are asked influence the way in which they are answered.

23 Schuman & Presser (1981)

- ✓ Two questions:
 - Q1: About American reporters in Russia
 - Q2: About Russian reporters in USA
- ✓ Two orders:
 - Americans first: 82% answer ‘yes’ to Q1 and 74% answered ‘yes’ to Q2
 - Russians first, 64% answer ‘yes’ to Q1 and 55% answered ‘yes’ to Q2

24 Question order can have other consequences (halo effects)

- ✓ Dean (1973)
 - Students took a final exam and then evaluated the course instructor on a range of questions.
- ✓ Two versions of exam:
 - Easy-hard-easy
 - Hard-easy-hard
- ✓ Intention was that primacy and recency effects would make the second version (hard-easy-hard) seem harder.

25 How did students evaluate the exam, course, and instructor?

- ✓ 1 to 5 scale (1 superior, 5 poor).
- ✓ Judgment of exam fairness
 - Easy-hard-easy = 1.5
 - Hard-easy-hard = 2.0 (a 12% drop)
- ✓ Judgment of course materials
 - Easy-hard-easy = 1.4
 - Hard-easy-hard = 1.6 (a 5% drop)

26 More...

- ✓ Course worthwhile
 - Easy-hard-easy = 1.6
 - Hard-easy-hard = 1.8 (a 5% drop)
- ✓ Instructor overall rating

- Easy-hard-easy = 1.7
- Hard-easy-hard = 1.9 (a 5% drop)

✓ Instructors understandability

- Easy-hard-easy = 1.4
- Hard-easy-hard = 1.8 (a 10% drop)

27 ☐ Order of choices in multiple choice question

- ✓ The order in which options are provided also influence choice.
- ✓ These phenomena are sometimes leveraged by marketers to obtain the desired outcomes.

28 ☐ Welch & Swift (1993)

- ✓ Product taste trials of 4 carbonated beverages.
- ✓ First beverage tried received a higher rating than later ones.
- ✓ In terms of overall acceptance and intention to buy...
 - The first beverage was again rated significantly higher.

29 ☐ Nisbett & Wilson (1977)

- ✓ Four pairs of nylon stockings (or nightgowns) presented to consumers in a commercial setting
- ✓ Consumers asked to pick which one they liked best and to indicate why they chose it.
 - The four items were identical!!!
- ✓ People strongly preferred whichever item was on the right
- ✓ Why did they say they chose it?

30 ☐ Stacking the deck in your favor

- ✓ People prefer “a” to “b”, “1” to “2”, “x” to “y”, “first” to “last”,
- ✓ If you work for Pepsico, make sure that
 - “Pepsi” is option “a” and
 - “Coke” is option “b”

31 ☐ Implications for voting

- ✓ Many districts order the options based on which party won the county last time
 - Last winner is first on ballot
 - This gives that party a distinct advantage
- ✓ Order should be counterbalanced
 - At least among the major parties....

32 ☐ Bishop (1987)

- ✓ Surveyed (via phone) opinions about social security benefit levels and the building of nuclear power plants.
- ✓ Interested in two issues;
 - The presence of a “middle alternative” either in the question preface or in the answer.
 - The location of that “middle alternative” (in the middle or last).

33 ☐ Example

✓(Preface)

- People have a range of opinions on social security benefits. Some people believe they should be increased to improve the life of the elderly, some believe they should be decreased to help the program stay out of the red, while others think that the current benefit level is fine.

✓(Question)

- Do you think social security benefits should be increased, decreased, or continued at the present level?"

34 ☐ Four forms

✓Omitted middle never mentioned

✓Omitted middle mentioned in question preface but not provided as an option.

✓Offered as an option in the middle position

✓Offered as an option in the last position

35 ☐ Results -

Middle alternative chosen?

✓When not offered as an alternative

- Not mentioned in preface
 - About 25% of people spontaneously offered the middle choice
- Mentioned in preface
 - That number increased to about 35%.

✓When offered as an alternative, 50-55% of people chose it.

36 ☐ Correcting for order effects

✓“Counterbalance” or “randomize” question order and option order.

- There are some exceptions
 - Some questions are better saved to the end
 - *Sensitive questions*
 - *Demographic questions*
 - Sometimes order cannot be counterbalanced - e.g., skaters being judged, prospective mates, grading of exams

✓Include unspoken alternatives (and not always as last option)

- Will provide a more accurate result

37 ☐ Unscientific polls - failure to counterbalance

✓Major (although inadvertent) problem in Internet polling and phone polls

- (another problem is failure to do random sampling)
- E.g., ESPN polls, CNN polls, etc.

✓This is one of the reasons you’ll see TV polls explicitly mention that their poll was “unscientific.”

38 ☐ Conclusion: Order matters!

39 ☐ Effect of irrelevant choices

✓Imagine that you’re given two alternatives, A and B, and you prefer A.

✓Now imagine that you’re given those same two alternatives along with a third, C, that is inferior to the other two.

✓Should the presence of C or its exact nature affect your choice of A over B?

– No, but it does: This is called the “*decoy effect*”

40 ☐ Huber & Puto (1983)

✓ Situation 1

- Battery A: lasts 22 hours and costs \$1.80
- Battery B: lasts 28 hours and costs \$2.10.
- Battery C: lasts 14 hours and costs \$1.50
 - *No one chooses Battery C when it is present.*
- When Battery C was in the set, more than 60% of people chose Battery A.

41 ☐ Huber & Puto (1983), cont....

✓ Situation 2

- Battery A: lasts 22 hours and costs \$1.80
- Battery B: lasts 28 hours and costs \$2.10.
- Battery D: lasts 32 hours and costs \$2.70
 - *No one chooses Battery D when it is present.*
- When Battery D was in the set, about 60% of people chose Battery B!

42 ☐ Why the difference?

- ✓ The third alternative can make one of the others look like a better deal.
 - In Situation 1, you get an extra 8 hours for \$.30 for A but only 6 extra hours for the same additional amount for B.
 - In Situation 2, you get 6 extra hours for \$.30 for B and only 4 extra hours for \$.60 for D.

43 ☐ Harrison & Pepitone (1972).

- ✓ Students were training a rat using electric shocks as punishers.

44 ☐ Three conditions

- ✓ Condition 1: two alternatives
 - Mild shock, slightly painful shock
- ✓ Condition 2: three alternatives
 - Mild shock, slightly painful shock, *moderately painful shock.*
- ✓ Condition 3: three alternatives
 - Mild shock, slightly painful shock, *extremely painful shock.*
- ✓ Told not to use the highest level in conditions 2 and 3.

45 ☐ So, what happened?

- ✓ Condition 1 (no third alternative)
 - 24% chose slightly painful shock
- ✓ Condition 2 (mod. painful alternative)
 - 30% chose slightly painful shock
- ✓ Condition 3 (extr. painful alternative)
 - 36% chose slightly painful shock

46 ☐ Marketing your product

- ✓ Problem (Tversky & Shafir, 1992)

- One-day sale, you want to buy a CD player.
- Available:
 - Sony, \$99, well below list
 - 66% buy, 34% wait.
 - Sony, \$99, or superior Aiwa, \$169, both well below list
 - 27% buy Sony, 27% buy Aiwa, 46% wait.
 - Sony, \$99, or inferior Aiwa, \$105 at regular price
 - 73% Sony, 3% Aiwa, 24% wait.

47 ☐ Improving sales

- ✓ Offer an obviously inferior product next to the one you're trying to sell.
- ✓ Williams-Sonoma
 - Breadmaker in catalog was \$275.
 - Added a second, similar bread maker to their catalog priced at \$429.
 - When second one was added, sales of \$275 model nearly doubled!

48 ☐

49 ☐ Types of decoy effects

- ✓ Asymmetric dominance
 - One choice affected by decoy more than other.
 - This is the type I've described already.
- ✓ Phantom decoys (Ariely & Wallsten, 1995)
 - Decoys that are listed but not available for choice.
 - Decoy effects persist.

50 ☐ Context matters!!!

- ✓ So, normatively, choice should be independent of irrelevant or less preferred alternatives, BUT it is not.
- ✓ Next we'll consider further issues on how the nature of the question affects responses.

51 ☐ Effect of scale context

- ✓ Frequency scales and reference periods
 - Discerning the questionnaire's intent
 - Suppose that respondents are asked how frequently they felt "really irritated" recently.
 - What does the question asker mean by "really irritated?"
 - What if the response alternatives ranged from:
 - "less than once a year" to "more than once a month"
 - "less than once a week" to "more than once an hour"
 - Schwarz et al. (1994)
 - people will indeed try to discern the intent of the question asker in these circumstances and answer accordingly.

52 ☐ Another example...

- ✓ Schwarz & Scheuring (1992)
 - Psychosomatics were asked how often they experience a variety of physical symptoms
 - When symptom frequencies ranged from:
 - 'twice a month or less' to 'several times a day'
 - 62% reported more than twice a month

- ‘never’ to ‘more than twice a month’
 - 39% reported more than twice a month

53 ☐ Ranges help when your memory of precise quantity is poor

- ✓ People with poor knowledge of their true frequencies will use the scale to anchor their own judgments
 - For example, if they judge themselves about average they will pick a number in the middle of the scale

54 ☐ Schwarz et al (1985)
German daily TV viewing

- ✓ Option 1
 - 07% - Up to 1/2 hour
 - 18% - 1/2 hour to 1 hour
 - 26% - 1 hour to 1 1/2 hours
 - 15% - 1 1/2 hours to 2 hours
 - 18% - 2 hours to 2 1/2 hours
 - 16% - more than 2 1/2 hours
- ✓ 84% watch up to 2 1/2 hours.

55 ☐ Loftus (1975)

- ✓ Market research study
 - Asked about use of headache products:
 - Interested in how many different products used
- ✓ “In terms of the total number of products, how many have you tried?”
 - 1? 2? 3?
 - Average response: 3.3
 - 1? 5? 10?
 - Average response: 5.2

56 ☐ Rating scales are not interchangeable....

- ✓ Schwarz et al. (1991)
 - Presented a success-in-life question
 - Option 1: 0 to 10 scale
 - Option 2: -5 to 5 scale
 - Bottom value was “not at all successful”, top value was “extremely successful”
 - Should find same answers for option 2 but with ratings 5 points lower, right?

57 ☐ Wrong

- ✓ Option 1: 13% gave an answer less than 5 (midpoint)
- ✓ Option 2: 34% gave an answer less than 0 (midpoint)
 - Why?

58 ☐ Follow-up studies revealed that ...

- ✓ People interpreted the bottom of the -5 to 5 scale as including explicit failures
 - The middle was a balance between explicit failures and explicit successes.
- ✓ But, they interpreted the bottom of the 0 to 10 scale as an absence of successes

- Absence of success doesn't mean presence of failures.

59 ☐ Unipolar vs. Bipolar scales

- ✓ People had different perceptions of the two scales:
 - Option 1 was a unipolar scale (involving different degrees of the same attribute) and...
 - Option 2 was a bipolar scale (involving the presence of opposite attributes)
- ✓ Unipolar and Bipolar scales can produce very different response profiles
 - For example, causal judgments research using bipolar and unipolar scales....

60 ☐ Pseudo-opinions

- ✓ Three typical situations
 - People are familiar with issue
 - Variations in context and order produce changes of less than 30%
 - People know fairly little
 - Magnitude of effects is larger
 - People know nothing about an issue
 - Some people (typically 25-35%) will express opinions about a topic they know nothing about.
 - These responses are called "pseudo-opinions."

61 ☐ Why are there pseudo-opinions?

- ✓ Respondents take their cues on how to answer the questions from:
 - their previous knowledge on the subject, AND
 - from the text of the question itself.
- ✓ Overreaching pollsters frequently encourage this behavior...
 - preliminary material before the actual question will frame the issue or establish the context.

62 ☐ Hartley (1946)

- ✓ Survey of college students regarding the 'social distance' of 35 different (fake) nationalities.
- ✓ 80% of respondents expressed an opinion despite the non-existence of these nationalities.
- ✓ Later studies by others tend to show 25% to 35% of people show pseudo-opinions.

63 ☐ A classic example is the health care debate

- ✓ Harvard/Princeton Survey Research poll
- ✓ Evaluated three major proposals for revamping health care
 - employer-mandate, individual-mandate and single-payer
- ✓ Employer-mandate plan was overwhelmingly preferred.
- ✓ In later polls, employer-mandate plan called "the Clinton plan" - little support.

64 ☐ Another example –

A poll about the NEA

- ✓ People for the American Way Action Fund
 - 1990 poll for NEA
- ✓ Imagine their good fortune to discover that 76% of the respondents agreed.

- 65 ☐ Filtering out pseudo-opinions
- ✓ Option 1
 - Ask if the respondent has an opinion on the topic before offering alternatives.
 - ✓ Option 2
 - Offer a “no opinion” or “don’t know” response alternative
- 66 ☐ Open-ended versus closed-ended questions
- ✓ Open-ended questions
 - Essay or short answer
 - No alternatives offered
 - Can help you catch unanticipated answers
 - ✓ Closed-ended questions
 - Multiple-choice or true-false
 - Constrains and reminds
- 67 ☐ Schuman and Scott (1987)
- ✓ Participants asked what was the most important problem facing this country today.
 - ✓ Two forms, open-ended and closed-ended question
- 68 ☐ Results
- 69 ☐ Another example
- ✓ People asked what they consider “the most important thing for children to prepare them for life”
 - ✓ 61.5% of respondents picked “to think for themselves” when it was part of a list.
 - ✓ Only 4.6% spontaneously provided an answer like this for an open-ended question.
- 70 ☐ Response alternatives affect responding . . .
- ✓ Response alternatives can clarify the intended meaning of a question.
 - ✓ Response alternatives may also remind respondents of material they may not otherwise consider.
 - ✓ But, response alternatives may overly constrain responding or bias thought away from other alternatives.
- 71 ☐ The ‘implicit suggested response’
- ✓ Question wording can also create “demand characteristics”
 - The wording will bias the respondent toward one type of response
- 72 ☐ Loftus (1975)
- ✓ Do you get headaches frequently? If so, how often.
 - 2.2 per week
 - ✓ Do you get headaches occasionally? If so, how often?
 - 0.7 per week

73 ☐ Harris (1973)

- ✓ How long was the movie?
 - 130 minutes
- ✓ How short was the movie?
 - 100 minutes
- ✓ How tall was the basketball player?
 - 6'7"
- ✓ How short was the basketball player?
 - 5'9"

74 ☐ Social desirability

- ✓ When people do not have deep convictions about an issue, they will often respond in the 'socially desirable way'
 - These people are particularly sensitive to question wording.

75 ☐ 1988 poll

- ✓ Should we support the Nicaraguan rebels to prevent the spread of communism?
 - 58% of people said "yes"
- ✓ Should we support the people trying to overthrow the Nicaraguan government?
 - 24% of people said "yes"

76 ☐ The importance of defaults

- ✓ Defaults
 - Opt-out vs. opt-in
 - Enroll in retirement plan, provide donation to presidential election fund, organ donation, default browser
 - If no action taken, default will be implemented
 - Default retirement plan (SIU: "Traditional" pension) vs. Portable or SMP
- ✓ Defaults alter preferences
 - By interpreting them as suggestions, or
 - Maintaining status quo, or
 - Avoiding action

77 ☐ Examples

- ✓ Johnson, Steffel, & Golstein (2005)
 - Consent to organ donation
 - 42% opt-in, 18% opt-out (i.e., 82% agree).
 - With neutral context, 79% agree
- ✓ Real-world stats
 - In countries that use opt-in, organ donation rates vary from 4% to 27%; opt-out, vary from 86% to 99.997%.
 - 65% of people choose the default retirement plan (even when default is 'nothing')
 - In PA, 70% chose expensive insurance plan when opt-out used; in NJ, 20% chose it when it required opt-in.
- ✓ Thaler's "libertarian paternalism"

78 ☐ Other issues

- ✓ The impact of question order, alternative order, context, etc. are much more pronounced the less the respondent knows or the weaker their opinions.
- ✓ Respondents rarely report order sensitivity (Nisbett & Wilson, 1977)

79 ☐ N. Schwarz (1999)

✓“We tend to view our questionnaires as ‘measurement devices’ that elicit information from respondents. What we frequently overlook is that our questionnaires are also a source of information that respondents draw on in order to determine their task and to arrive at a useful and informative answer.”

80 ☐ N. Schwarz (1999)

✓“The ‘problem’ is not the context dependency of human judgment but researchers’ hope that this context dependency may – miraculously – not apply to their own study.”